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THE LARYNGOSCOPE

A MONTHLY JOURNAL
DEVOTED TO DISEASES OF THE
NOSE - THROAT - EAR

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THE LARYNGOSCOPE.

Vol. V. ST. LOUIS, MO., SEPTEMBER, 1898. No. 3.

ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

NOTES ON A CASE OF MEMBRANOUS RHINITIS.

BY RICHARD LAKE, F.R.C.S., ENGLAND.

Surgeon and Laryngologist, North London Hospital for Consumption; Assistant Surgeon,
Royal Ear Hospital; Chief Assistant, Ear Department, St. Thomas' Hospital.

Membranous rhinitis is a disease of some rarity, when one sifts out the authentic cases from nasal diphtheria. I am, therefore, tempted to place this case before the profession whilst Price-Brown's¹ is still fresh in the minds of his readers. My own case is not cured and should it turn up again and present any point of interest I will again report.

The earliest mentioned cases of this disease were attributed by their reporters, and by the writers on nasal surgery, even less than a decade since, to a "croupous" inflammation, whatever that may have meant.

In the light of modern methods of investigation this was an eminently unsatisfactory explanation; and as a result one finds that, although for a short period almost all recorded cases proved to be diphtheria, it is only within the few last years that a distinction has been made between diphtheria nasi and membranous rhinitis.

This being the case it is worth briefly looking over the views expressed in the standard works thereby observing the changes which have crept over the views held as to the causation of this disease, a

direct and natural result of the evolution of bacteriology and its intelligent application to nasal surgery.

Macdonald² says, "There does not appear to be any special constitutional factor in the development of this affection;" he later draws a fairly clear line between "croupous" and diphtheritic rhinitis.

Bosworth³ also calls it "croupous" rhinitis and thus describes it: "A fibrinous exudation is mainly to be regarded as a local manifestation of a general blood condition, a local exudation, etc."

As to causation, he proceeds after having stated that the morbid process is due to a germ: "What the germ is the pathological laboratory has not yet told us." The acuteness of this observers' judgment has never been better exemplified; this was written nine years ago.

One more quotation is necessary to give the latest views. Ball⁴ in the last edition of his work gives a description which could not easily be improved upon, we only give a few lines. "The staphylococcus pyogenes aureus in some instances, and the streptococcus pyogenes in others, have been the exciting agents in these cases."

Apart from the bacteriological there are few characteristic signs of this disease, the more important are: the patient's general health suffers but little; the duration of the illness is greater than in true diphtheria and tends to recur at long intervals; one nostril only is generally affected; nasal obstruction is the most marked symptom; diphtheria antitoxine would have no beneficial effect; diphtheria would probably be epidemic if the attack was diphtheria; in this disease the membrane is more translucent, not so dirty looking or opaque as in diphtheria, neither is it adherent nor causes bleeding when removed.

G. B., aged fifty-four, consulted me first the 21st of May, 1897, for nasal obstruction on the right side. There was slight subjective smell at times. The obstruction was not constant and was apparently a sequel to an old affection, viz., hay fever. His general health was good, though he was obviously somewhat nervous. The nose showed moderate obstruction, chronic rhinitis with an unusual pallor of the mucous membrane, and there were a number of whitish flakes of apparently coagulated secretion. I paid but slight attention to these at the time, but in the light of the later history of the case I am sorry no bacteriological examination was made.

Under ordinary treatment the patient obtained considerable relief, so much so that he ceased his visits. Once a few flakes showed up in the left nostril, but as it was the usual time for Mr. B. to have hay fever no notice was taken of its presence. This was in June of the same year.

He called again on the 18th of February, 1898, saying that after a period of considerable relief he was obliged to seek relief again as the old trouble had returned with increased severity.

On examining the nose the mucous membrane presented the same characteristics as before, but where there had been only a few flakes of membrane there was now a whitish gelatinous mass filling entirely the cleft between the septum and the inferior turbinate bone; on removal it resembled the so-called "white" of a plover's egg. This was sent in a sterile tube to Mr. W. D. Severn, whose reports I append:

REPORT ON A SPECIMEN OF MEMBRANE.

TO RICHARD LAKE, ESQ., F.R.C.S.

Case of Membranous Rhinitis—No. 2:

Fragment of soft, but rather tenacious membrane, about three mm. long on the dry surface of old horse serum in a sterile tube.

The membrane was well rubbed over the surface of the serum with a flat thick platinum wire, then rubbed upon another fresh serum tube, then upon an agar surface, and finally two streaks were made upon a second agar surface with the wire.

The membrane was dropped into 60 per cent alcohol to harden afterward. After incubation at 37° C. both the agar tubes and the serum have been found to contain pure cultures of *staphylococcus pyogenes aureus*. Not a single colony of any other organism has appeared. On the old horse serum no growth has occurred at all.

WALTER D. SEVERN.

REPORT (No. 2) ON A FRAGMENT OF MEMBRANE FROM A CASE OF MEMBRANOUS RHINITIS—CASE No. 2.

TO MR. RICHARD LAKE:

Sections have now been cut from the membrane, after embedding it in celloidin. These have been stained by Gram's method, with carbol-fuchsin and tannin and with strong methylene blue (decolorized with acetic acid and after-stained with safranin.) The two latter methods were employed to detect organisms other than the septic cocci. (No other organisms were, however, present.)

No organisms were observed beyond large masses of *staphylococcus pyogenes aureus*, which result coincides exactly with the cultivation obtained, which were *pure* ones, of *s. py. aureus*. WALTER D. SEVERN.

May 19, 1898.

The treatment adopted in anticipation of the disease being of bacterial origin was hydrogen peroxide, first to cleanse the passage with formaline, one-half per cent afterward to act as a germicide; improvement followed, but the irritation of the formaline prevented my patient from continuing; I next resorted to cautery with trichlor-acetic acid to try and get sufficient shrinkage of tissue to enable him to breathe easily; some slight benefit accrued from this also, but not much.

I had, in the meanwhile, been engaged in attempting to obtain a

staphylococcic antitoxine, but so far unsuccessfully, and now that I have an offer to make it my patient has gone abroad; I suggested his trying the effect of a high altitude, hoping to enable him to combat the microbe if his health was thoroughly set up.

Price-Brown's case, together with this make a small addition to our knowledge, which may possibly assist in laying down some more definite rules to distinguish the two main intra-nasal causes of membrane formation.

I have already given my views earlier in this paper.

One point which has been raised in my mind by this case, is the question of how far maxillary sinusitis was responsible for the continuance of the infection, a point still left in doubt by the refusal on the part of the patient to submit to any operative procedure whatsoever.

It not only raises this point, but at the same time suggests the possibility of there being antral involvement in other similar cases.

There were no symptoms pointing to maxillary sinusitis in this case; transillumination being used only when the intractable nature of the disease had manifested itself.

1. Price-Brown.
2. Macdonald—Diseases of the Nose, 1892, p. 50 and seq.
3. Bosworth—Diseases of the Nose and Throat, 1889, p. 181.
4. Ball—Diseases of the Nose and Pharynx, 1897, p. 102.

Some Defects of Speech; Their Cause and Treatment, with Exhibition of Cases—G. HUDSON MAKUEN, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, March 12, 1898.

The cleft palate operation should be done as early in life as possible before habits of faulty speech are formed. The nasal trouble following operation is that the soft palate is so short and tense that it cannot be made to press against the pharynx so as to properly close the opening to the nasal passages, hence certain consonant sounds cannot be produced. In some cases by surgical means much assistance can be given, the object being to cause the parts to assume as nearly as possible the normal shape. By massage the tenseness may often be overcome.

PYNCHON. (BISHOP.)

INJURY TO INFERIOR AND MIDDLE TURBINALS IN OPERATION FOR DEVIATED SEPTUM.*

BY J. A. STUCKY, M.D., LEXINGTON, KY.

Having had unfavorable results in several cases in which I used the Asch tube in operating for correction of deviation of the nasal septum and having seen three cases in which serious results followed the use of the tube, on account of injury to the inferior and middle turbinate bodies, I am led to suggest a word of caution and submit the following cases in justification of calling your attention to this matter:

I do not desire to be understood as decrying or in any way underrating the efficacy of Dr. Asch's operation and the use of his valuable tubular splints, but to emphasize the fact that the operation as suggested by him is not an easy one to perform, and should be undertaken only after careful study of each case, and that the number of these cases suitable for the use of the tubumalar splint is much more limited than is generally supposed.

Where the septum is so deviated as to impinge upon the turbinate or adhere thereto, I believe it safer to use a tissue knife or probe-pointed bistoury to separate these adhesions, rather than the curved gouge. The "bayonet-pointed" or "beaked" septal knives are much easier and more satisfactorily used than the septal scissors. With the latter it is frequently a very difficult, if not impossible task, to insert them in a case of marked deviation without injury to the turbinate or outer wall of the nasal cavity.

The following marked and typical cases of deviation of the nasal septum to the right, I saw before and after the Asch operation had been performed, and the operation in each case had been done by a skillful and experienced rhinologist. I report briefly the condition several months after the operation:

Case 1—Male, aet. 21. Present condition: Septum fairly straight; marked hyperchondrosis anteriorly; complains of stuffy full feeling in nose and over antrum, and noises in right ear. Interior turbinate fractured and bound down by adhesions to floor of cavity, completely obliterating the meatus. Middle turbinate tilted upward till it pressed against the septum and undergoing polypoid degeneration (as will be seen in specimen.) He states he wore the Asch tube five weeks,

*Read before American Rhinological, Laryngological and Otological Society.

and at this time, six months after the operation, feels worse than before operated upon. The indications for treatment in this case were plain, and I simply refer to them without comment. A turbinectomy was done upon the middle turbinate, and nearly the entire inferior turbinate removed and the meatus curetted of much granular tissue. The hyperchondrosis was removed with the bistoury. The patient was relieved in a few days, and remains so to this day, thirteen months after the operation.

Case 2.—Male, aet. 27. Present condition: Septum slightly deviated to the left, the deformity being over-corrected, but not enough to seriously impede respiration. Inferior turbinate bent, not fractured, and adherent to the floor of the cavity—the meatus almost occluded. The middle turbinate was fractured and freely movable with the probe. This case I saw two weeks after the operation and both inferior and middle turbinate showed plainly the effects of traumatism. The adherent inferior turbinate was freed with the scissors and probe, and ten per cent chromic acid was applied to the swollen tissue. The fractured portion of the middle turbinate was removed with the cold snare, and a grooved vulcanized nasal splint substituted for the Asch tube. This case also made an uninterrupted recovery.

In neither of these cases was there any evidence of injury or disease of the turbinals before the operation. Whether the injuries were inflicted with the curved gouge scissors or forceps (Asch's) cannot be positively stated, but my conviction is it was done by the tube, which I think is too short, too wide and too large at the external opening. In selected cases, with large, roomy nose, the Asch tube has given beautiful results, but with a patient under an anæsthetic, bleeding profusely, and choking with blood, the operator in a hurry to relieve him, it is very easy to exert a little too much pressure in inserting the tube, in some cases pushing it into the wrong place (the middle meatus), thus seriously injuring both turbinates. The splints that have given me the best results are those made of vulcanized or dental rubber (half tube or grooved), wide at bottom, narrow at top, external end a little larger than internal. I submit them for examination.

Lexington, Ky.

WOOL TAMPONS IN THE CONTROL OF NASAL HEMORRHAGE.

BY BERNARD BERENS, M.D., PHILADELPHIA.

The subject of nasal hemorrhage and its control has been worn almost threadbare by the many articles written upon it. My only excuse for now adding to it is the uniform success I have had with the method about to be described. In all cases of hemorrhage from whatever cause resulting from a solution of continuity of any portion of the nasal tract, I proceed as follows: Take a small tampon of sterilized lamb's wool and dip it into a wide-mouthed bottle of boric acid powder or nosophen. Considerable of the powder will be taken up in the meshes of the wool, which is now rolled up into a small compact ball and thrust into the nasal chamber by forceps, and placed over the bleeding surface. As soon as the tampon is released from the grasp of the forceps and moistened by the blood, it swells rapidly and encourages the formation of a clot in the interstices of the tampon. If necessary another tampon can be inserted in the same nasal chamber, either by the surgeon or by the patient. In all that has been written thus far on this subject no mention has been made of the removal of the tampon, whatever material it may consist of, which is frequently followed by considerable and sometimes alarming hemorrhage. To accomplish this removal successfully I instil into the nostril several eye-pipettefuls of benzoinol and then after waiting a few moments the tampon will be easily, if slowly, removed without hemorrhage. The merits of wool tampons are, that while they are absorbent they will not pack or felt, that they are easily sterilized, that they increase clot formation and that they are readily medicated with Monsell's solution peroxide of hydrogen and powders of boric acid, nosophen, etc.

TONSILLOTOMY—WHEN AND HOW TO MAKE IT.

BY J. M. CRAWFORD, M.D., ATLANTA.

I am aware that the subject of tonsillotomy is an old one, but indeed almost all important subjects are old, and yet we often gain much and help our fellow-laborers vastly by speaking of things of every-day life. It is not attempted here to state the origin or trace the history of the operation. I shall endeavor to throw some light on the question, when and how should tonsillotomy be made?

Tonsillotomy should be resorted to when the tonsils extend much beyond the pillars of the fauces, not waiting until they touch each other, especially where aural catarrh exists. It is indicated even when the tonsil is slightly hypertrophied, if the lacunæ are inclined to inflame from collections of caseous secretions. Shaving the tonsil destroys these lacunæ, thereby preventing this frequent and painful inflammation. No one, even the most timid operator would hesitate to make the operation when the tonsils are so large as to reach the uvula, thereby making it laborious to breathe, especially when asleep, and these diseased conditions often prevent respiration. I take the position that one could breathe just sufficiently often as to grow lean, not getting enough oxygen in the lungs on which to thrive. On the other hand he can breathe sufficiently often and deep so that he will be able to grow fat, the diet in both cases being the same, and in such cases of impaired breathing we find the advisability of doing tonsillotomy.

Here we have a boy or girl who, besides sleeping with the mouth open, breathes imperfectly—only about twelve times a minute. Such a patient may not be expected to grow, give him to eat what you may. Even the vulgar notion which leads to fear of losing the power of posterity, is sometimes in the way of the physician when he suggests the operation. Of course this should not be thought of for a moment by the patient or friends, as there is no foundation for this false idea. Neither should the fear of losing one's voice be an obstacle, as there is no danger to be feared on this score. The main difficulty to be met, and this, for the most part, in patients above fifteen years of age (taking it for granted that the operation is properly made), is hemorrhage.

Below the age of fifteen the tonsil is usually soft, and when cut, as with the tonsillotome, the cut edges are more or less mashed or

pressed together, thereby stopping the hemorrhage. In older persons, however, the tonsil is more fibrous. The walls of the cut vessel are pulled apart, as it were, by the firmness of the tonsil itself. I would not hesitate, however, to make the operation, when it was needed, even in the oldest. Fortunately, after a certain age the tonsils atrophy and require to be removed rarely. Fewer cases of hemorrhage occur when the operation is made with the tonsillotome, instead of the vulsellum forceps and bistoury. When using the bistoury and forceps one is apt to pull the tonsil with his forceps too much. In such a case he knows not where he is cutting. On completing the operation and looking into the mouth of the patient he sees a sulcus, where a portion of the tonsil should have been left. A sulcus, besides endangering the life of a patient by hemorrhage (so much of the tonsil being removed), is a source of constant annoyance in that it is a lodging place for food, etc. The tonsillotome makes a clean, straight cut on a level with the pillars of the fauces. The bistoury by its to-and-fro motion leaves the cut surface jagged. There is much less pain in operating with the tonsillotome. I would advise you never to use the forceps and bistoury. I prefer Mackenzie's tonsillotome or some of its modifications to all others. It is more simple, more easily managed and less cumbersome. I much prefer this instrument to the various barbed instruments now on the market. There need be no fear of the tonsil falling into the larynx, as it nearly always adheres to the instrument. Where it does not adhere to the instrument, it falls in the mouth and is expelled. By applying a little cocain (a six per cent solution is quite sufficient) to the tonsils and fauces you allay the sensibility of the throat, which is a great aid in the operation. Be sure that your instrument is over the tonsil just where you wish the incision to be made, then push the blade to its destination.

You will find your patient allows you to remove the first one with a great deal more readiness than the last one. To remove the second one comes the "tug of war." By a little persuasion, however, you can overcome this. Keep your patient quiet for thirty minutes to see if excessive hemorrhage is going to take place. Should this occur you have a safe hemostatic in the cautery. Now should the operation have been made with the bistoury and the deep sulcus of which I have already spoken existed, you would not be able to see the bleeding point, and hence would be debarred from this effective means of arresting the hemorrhage. In this case pressure upon the cut surface with a pledget of cotton will, if diligently used, cause the hemorrhage to cease. This is a very trying procedure, both on the

patient and the doctor. I have used this method and know by experience how trying it is. During my stay with Dr. Calhoun, as assistant, I can recall five or six cases of frightful hemorrhage from tonsillotomy made by him with the knife and forceps. In each case the hemorrhage was stopped by my putting a wet sponge or pledget of cotton on the cut surface and applying pressure. In each of these cases the sulcus existed, making it impossible for me to see the bleeding artery and forcing me to resort to the only safe method for such cases, to-wit: pressure. You will pardon me for my modesty, which can be explained, for claiming at this late date the originality of this plan of pressure by means of a pledget of wet cotton or wet sponge held firmly to the cut surface by the two first fingers. The first time I used this method was in the fall of 1889. The patient, a boy of about sixteen, having been operated upon by Dr. Calhoun, bled more or less profusely while we were at dinner. On our arrival we found him weak indeed, from the great loss of blood. Dr. Calhoun asked me to stop the hemorrhage. He was still bleeding. So, to meet the emergency the case demanded, I quickly applied a wet sponge in order that I might have a moment's time for reflection. This succeeded so thoroughly in stopping the hemorrhage that I ceased my desire for another method. I do not say I was the first one to use pressure for this trouble, but I do say that the idea was original with me in employing it. Thus we sometimes meet with difficulties in making this operation. We have, however, at our command, as I have already stated, two means for arresting the hemorrhage: The cautery, when the bleeding point can be seen; in other instances, apply pressure.

29 Grant Building.

Diseases of the Eye Caused by Diseases of the Nose—ALLEN T.

HAIGHT—*Jour. Am. Med. Assn.*, May 21, 1898.

Argument is made that the eye is frequently influenced by conditions of the nose, and an elaborate resumé is given of the literature bearing on the subject. More than one-third of external ocular diseases, in the opinion of the writer, have their predisposing cause in the nasal cavities.

PYNCHON. (BISHOP.)

URTICARIA, INVOLVING THE SOFT PALATE, CAUSING ALARMING SYMPTOMS.

BY M. B. LEDERMAN, M.D.

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Though this disease is usually a most ephemeral affection, it nevertheless assumes a serious aspect when it attacks the mucous membranes. Its migrating properties are so distinctive, it is quite surprising that so few instances of involvement of the mucous membrane are recorded.

Probably this is due to the elective affinity which the lesions show for the papillary layer of the skin. When one recalls the exaggerated type of these so-called "wheals," with their circumscribed collection of semi-fluid material, the dangers arising from an involvement of the pharyngeal or laryngeal tissues can readily be imagined.

Irregularity in diet; the sting of insects; contact with some forms of animal and plant life, together with certain forms of food and drugs are recognized as exciting factors in this ailment.

In the case which came under my observation, the patient had enjoyed good health up to the time of this attack. He was about thirty-eight years of age, and was spending his summer at the seaside, taking the ocean baths daily.

After coming from the bath one morning, he suddenly became chilled, which feeling was soon followed by considerable nausea and weakness. His friends assisted him to the dressing-room, and administered an alcoholic stimulant, after a short rest he was brought to the hotel and placed in bed, feeling very ill.

Multiform swellings appeared over his body, especially pronounced about the face. Marked difficulty in swallowing was experienced. His condition became so alarming to those in attendance, that I was requested to come to Mr. X. "without delay, as he was suffocating."

On examining the patient, whom I knew socially, was astonished to find so marked a change in his features. His face was greatly swollen, as if a serious exudation had involved the entire skin. The eyelids were swollen to such a degree as to almost obliterate the optical fissure. His coloring was somewhat cyanotic, and his voice resembled that of an individual suffering from an acute periton-

sillitis. Large "wheals" were present over his chest, abdomen, legs and arms.

On examining his throat, I found the soft palate and uvula so edematous, as to almost close the faucial space. The appearance of the mucous membrane was quite anæmic over certain areas, as if the circulation was restricted at these sites, similar in appearance to the "wheals," as seen upon the skin. Not having serviceable instruments at hand, small pieces of ice were promptly placed into the patient's mouth with very good effect. Ten grains each of calomel and compound jalap powder were given at once. This combination had the desired effect and within six hours the pharyngeal swelling had almost disappeared. No involvement of the larynx could be noticed.

In twenty-four hours Mr. X. had recovered sufficiently to be about, though feeling quite weak.

He informed me that while in bathing, he felt a "jelly-fish" strike against him, and it is probable that this form of marine life was the exciting factor in his distressing attack.

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Cerebral Abscess Consecutive to Purulent Otitis Media—G. BERGAMINI—*Revue Hebdomadaire de Laryngologie, Etc.*, May 7, 1898.

Dr. G. Bergamini reports a case in which the symptoms presented were such as to render the diagnosis particularly difficult. The prominent symptoms were lesions of the cranial nerves, which at first suggested a tumor at the base of the brain. In addition to amaurosis and neuralgia of the right fifth pair, the following phenomena were present:

Paralysis of the third and second cranial nerves; left hemiplegia, which could be referred to a lesion of the right peduncle; paralysis of the left seventh nerve, limited to the interior branch and accompanied by a lesion of the eighth nerve of the same side. If, however, these conditions were due to a tumor at the base of the brain, it must occupy both cranial fossæ while sparing the sixth, seventh and eighth right nerves.

The autopsy showed an enormous abscess which opened into the right lateral ventricle after having destroyed a large portion of the cerebral substance. The optic nerve was reduced to a small thread, the right cerebral peduncle was uniformly diminished in diameter, and the parietal bone of the same side was twice as thin as the corresponding opposite part.

SCHEPPEGRELL.

FALLACIES IN THE PHYSIOLOGY AND FUNCTIONS OF THE LABYRINTH.*

BY M. A. GOLDSTEIN, M.D.

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The great advance made in our knowledge of the physiology and pathology of the external and middle ear during the past decade has far overshadowed, in quality and quantity, the results which have been obtained in the investigations of the internal ear. Perhaps this may be due, in part, to the relative infrequency of diseases of the labyrinth, and the consequent insufficiency of data; perhaps also to the difficulties which often present themselves in making correct diagnoses of many labyrinthine affections. On the other hand, we have many series of valuable clinical observations on diseases of the internal ear, without being able to determine the pathologic changes which have taken place; again, we have interesting post-mortem findings in labyrinthine diseases without the support of proper clinical data. Thus, much of our information on the subject is but the combination of hypotheses and possible conditions, lacking the strength of absolute scientific data and certainties.

Concerning our knowledge of the anatomic and functional changes and the diagnosis of diseases of the internal ear, we are still on the threshold of our subject, notwithstanding the many interesting reports of cases and clinical observations furnished by experienced observers in every section. The physiologic significance of the semi-circular canals has been the subject of considerable difference of opinion, and many of the experimental data now at our disposal are so conflicting that our results have been based on a rather indefinite foundation.

The former theory, that the angles which the semi-circular canals form, arranged perpendicular to each other, thus accounting for their capability to determine the direction of sound, seems to have been entirely discarded. More interest centers about the functions of the semi-circular canals as organs of co-ordinate movement. The funda-

*Paper read at the Third Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association, Chicago, April 7, 1898.

mental experiments upon which this theory is based, were first performed by Flourens. He repeatedly observed, after division of the semi-circular canals in pigeons and rabbits, considerable motor disturbances, which convinced him that these canals were the central and control organs for co-ordinate movement.

Careful investigators, however, operating along the same experimental field, have arrived at decidedly different conclusions. Thus Goltz, Crum-Brown and others look upon the semi-circular canals as the "organ of the sense of equilibrium;" Cyon designates them the "organ of the sense of space;" Löwenberg refers the symptoms mentioned to a reflex transmission of the irritation caused by the injury to the motor nerves of the thalamus opticus. Opposing these theories, Moos, Böttcher, Baginsky and Tomaszewicz infer that all disturbance after injury to the semi-circular canals proceeds from a simultaneous injury to the cerebellum. Many of these conclusions have been reached by experiments conducted on some of the lower mammalia, and the great variation in the data acquired would tend to establish, even without further proof, the uncertainty and fallacy of these several theories.

Permit me to add my own clinical observations relating to the functions of the labyrinth, which, though limited, I have nevertheless been able to repeatedly verify.

In April, 1895, I reported my clinical data of an especially interesting case of exfoliation of the labyrinth. The case was that of a young negro boy, six and one-half years of age, who developed a suppurative otitis media after a severe acute rhinitis. After nearly two years of profuse and continued suppuration, during which time no complications had arisen, the patient came under my observation. The unfavorable aspects of the case had now presented themselves. Mastoid infiltration and inflammation were marked, and complete facial paralysis of the affected side was demonstrable. On operation the greater portion of the outer bony area of the mastoid was found to be a softened, necrotic mass, and could have been more easily ladled out with a spoon than removed with a curette.

In the course of five weeks five sequestra were successively removed from the temporal bone. The largest exfoliated mass contained nearly the entire bony labyrinth. The cochlea was almost completely exfoliated; the vestibule with the ampullæ were plainly visible, also a considerable portion of the semi-circular canals, together with a honey-combed mass of mastoid cells. After the removal of the last sequester, the patient was convalescing rapidly,

and January 5, two months after operation, he was presented at a meeting of the St. Louis Medical Society. He was then bright, active and in good spirits. Three weeks later a rapid, general decline ensued, and the patient died shortly afterward of acute miliary tuberculosis.

Unfortunately, permission was not granted for a complete post-mortem, but the right temporal bone was removed and the involved area carefully inspected. Examination of the affected temporal bone, after its removal, corroborated my description of the necrosed and exfoliated areas.

Circumscribing the region of the osseous external auditory meatus, and involving the mastoid and squama, with a radius of about three-quarters of an inch, was a necrotic zone, with irregular but well defined margin. Designating this as the base of a long, cone-shaped canal, we note an axis of about two and one-half inches in length, directed inward, downward and backward, with its apex merging into the Eustachian tube. This cone-shaped sinus, through which the exfoliated bone masses were removed, was lined with quite firm, closely meshed granulations. All landmarks of the osseous meatus auditorius externus and cavum tympanum had disappeared. Of the petrosa, the superior wall and part of the posterior portion of the meatus auditorius internus still remained intact. Examined while fresh, the portion of the nervus acusticus, lodged in the depth of this canal, was, to all appearances, normal in color and consistency. I desire to especially emphasize this fact to substantiate later observations.

After removal of the bone, the exposed cavity was carefully examined, with special stress laid on the cranial areas in direct relationship to the necrosed bone. On the periosteal surface of the bone still remaining, numerous erosions and irregularities were noted, yet the dura mater at all points was perfectly firm and intact. With the existence of a disseminated and rapidly progressing tubercular process, our anticipations of the presence of a tubercular meningitis might have been well founded; the most careful and detailed search, however, failed to reveal any meningeal lesion whatever.

In the first place, I would offer as a proof of the fallacies of the present accepted theories concerning the functions of the semi-circular canals, that this patient walked into the assembly hall of the medical society with a thoroughly steady gait and a perfect sense of direction, walking with head and body erect, and turning to the right or left, as indicated by members of the society conducting the examina-

tion, and all this while the exfoliated labyrinth containing the cochlea and semicircular canals, taken from his right temporal bone, was lying on the table awaiting inspection.

The post-mortem examination substantiated my conclusions that not only the osseous semicircular canals had been entirely exfoliated, but no vestige of even a membranous labyrinth remained, so we are justified in concluding that it also had been destroyed.

Walking and standing tests were repeated frequently, varying the same in every conceivable way by blindfolding the patient, testing with eyes closed, permitting the patient to walk under the influence of loud noises, etc. The results were always positive, the gait firm and steady, position of the head erect, and the power of equilibrium and sense of direction preserved to a nicety.

In presenting these facts it is not my purpose to promulgate any new theory concerning the functions of the labyrinth, but to emphasize the fact that many of our ideas thus far conceived will admit of decided revision.

Concerning the functions of the cochlea, much of our present information is based on hypotheses. By the labors of Helmholtz, Corti, Ranke, Hensen, Hasse, Exner and others, great progress has been made in establishing the functions of the delicate structures of the labyrinth, yet even Helmholtz, whose pioneer work in the physiology of the ear has contributed so many interesting and valuable data, admits the possibility of error in these observations.

In the literature of otology, necrosis of the cochlea or part of the bony structure of the internal ear is not of infrequent occurrence, but an exfoliation of the entire labyrinth in one piece is indeed very rare.

Sexton, Gruber, Guye, Bezold, Rueda and others have seen and reported cases where exfoliation of the cochlea alone has not been attended with total loss of hearing on the affected side. Sexton even emphasizes his observations by the statement: "I fancy no one disputes that in one of my cases marked hearing remained." These cases are, in themselves, substantial clinical evidence that the cochlea is not an absolute essential to hearing. In these cases, however, only the cochlea had been exfoliated, the other structures of the labyrinth remaining intact.

I desire to advance one step further in the conclusions thus far reached. I maintain that in the case which I have reported, of exfoliation of the entire labyrinth, a very fair degree of hearing was retained in the affected ear, and herewith present for consideration the tests and observations recorded. I have been thoroughly cognizant of the difficulties and responsibilities attending an effort to substanti-

ate so radical a statement, and have necessarily adopted the most careful methods and delicate tests to convince myself of the accuracy of my conclusions. The most serious obstacle to contend with was the exclusion of the healthy ear from the sound tests which were instituted. In the majority of tests made I adopted the method suggested by Dennert and Luca, with modifications. In determining what degree of sound perception still exists in an affected ear in a case of one-sided deafness, the healthy ear of the patient is stopped, turned toward the source of sound and the tests then made, the affected ear being alternately opened and closed. Whatever difference in the hearing then elicited, is attributed to the affected ear.

A more delicate modification of this method has been successfully used by Burnett. The patient is so placed that the affected ear is toward the operator. The healthy ear (not the ear to be tested) is plugged. With the affected ear open, hearing tests are then instituted. Having thus reached the apparent limit of the hearing power of the affected ear, that ear is then closed, and the tests continued. If the closure of the deaf ear causes no difference in the hearing distance already obtained, it is fair to conclude that whatever amount of hearing exists is not due to passage of sound through the external auditory canal of the affected ear turned toward the test. In such a case the conclusion must therefore be that sound has reached the brain through the agency of the healthy ear. If, however, the stoppage of the affected ear is accompanied by an absolute inability to hear sound tests, it is again rational to conclude that this difference in the hearing power must be attributed to the affected ear. Thus, the final conclusion: "Whatever is heard just as well with the deafer ear stopped as when open, the better ear remaining stopped throughout the testing, must still be heard by the better ear through the head; but whatever is heard with the worse ear open, the good ear being stopped, must be attributed to the worse ear."

The question might be asked, "Why cannot sound be conveyed to the deaf ear through the head, if it is conveyed to the better ear which is stopped and turned away from the sound source?" The reply would be that an ear which, either when stopped or open, perceives no difference in sound conveyed by the meatus, is not sensitive enough to hear sound conveyed to it through the head.

In the consideration of the case at hand, bone conduction tests by aid of tuning forks were excluded, as they were deemed less delicate for a differentiation than aerial sound conduction. Furthermore, as our dealings were directly with an exfoliated labyrinth, the tuning fork, relative to bone conduction, was practically of no value.

The following tabulated notations will indicate clearly the conclusions reached in hearing tests of the affected ear:

HEARING TESTS.	Hearing capacity with both ears closed.	Hearing capacity with affected ear open and good ear closed.
Loud conversation	300 cm.	900 cm.
Whispered conversation.....	30 cm.	90 cm.
One hundred and fifty centimeter watch.....	5 cm.	15 cm.
Politzer's acoumeter, designated by patient as a loud-ticking watch.....	15 cm.	35 cm.
Galton whistle; pitched high.....	30 cm.	60 cm.
Differentiation in sound of C from C ⁴ tuning fork.....	8 cm.	35 cm.
Musical notes of a loud-sounding harmonium. Differentiation of C (3d octave) from C (5th octave).....	35 cm.	90 cm.

In the execution of the enumerated tests the patient was blindfolded; the plugging of the meatus was done by a competent assistant, the forefinger being used as a tight plug. Taking into account the age of the patient and all tendencies to a possible misrepresentation of the hearing capacity, the tests were repeated at frequent intervals with many variations, yet the tests proved doubly valuable, owing to the demonstrable accuracy of the patient's statement.

Thus, the conclusions which have been logically and carefully reached tend to establish the fact that this patient, with an exfoliated labyrinth, still retained partial hearing faculties in the affected ear.

Pathologically, we deal in this case with a destruction of the peripheral or terminal filaments of the auditory nerve, as indicated by necrosis of the cochlea and semicircular canals.

Physiologically, we know that the auditory nerve, when stimulated either at its origin, in its course or at its peripheral terminations, gives rise to sensations of sound. We also have the report from several authentic sources that after exfoliation of the cochlea considerable hearing power may be retained by the affected ear. As the peripheral apparatus is hereby destroyed, how is the function of audition carried on?

We know that perception of light does not depend entirely on the presence of rods, cones and lenses; walking along in a dark corridor and suddenly coming in contact with some external object causes an impression of a bright flash of light. Nor does the sensation of taste depend exclusively on an exercise of the physiologic functions of the tongue; when a galvanic current is applied to the face we readily experience a metallic taste in the mouth.

We even speak of "seeing sounds" where the impressions of musical tones are interpreted by certain individuals as colors of varied hues; and of "nasal vision," where the nose, in part, performs the function of the impaired or absent eye.

I would illustrate with these examples that even the nerves of special sense may have compensatory functions. Why then can there not be such compensation of the *nervus acusticus*?

In the post-mortem examination it was found, macroscopically and microscopically, that the portion of the auditory nerve still retained within the internal auditory canal was, to all appearances, normal and healthy.

Is it not possible that sound waves could have been conducted through the large sinus left by the removal of the several sequestra, and could thus have been impinged directly on the stump of the exposed auditory nerve and transmitted either directly or by way of the opposite, healthy nerve to the brain?

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Phenomena Observed in Twelve Cases, at Various Stages of the Operation, for Section of the Incudo-Stapedial Articulation and Mobilization of the Stapes—E. B. GLEASON—*Jour. Am. Med. Assn.*, March 5, 1898.

The cases operated were all sclerotic, and the worse ear was invariably selected. Anæsthesia was secured by use of sterilized solutions of cocaine. In all but one case the operation was comparatively bloodless. In every case the hearing was carefully tested after each step of the operation. In no instance did the slightest improvement of hearing follow the incision of the drum-head and the turning forward of the flap or from manipulation of the long process of the incus. In two cases section of the stapedius gave an immediate improvement of hearing, which was further intensified by the subsequent incision of the incudo-stapedial articulation and mobilization of the stapes. In several cases the anchylosis was too pronounced to permit of this latter step, but when accomplished, improvement of hearing followed, though invariably accompanied by vertigo, which lasted from a few minutes to three days. In all cases where tinnitus existed it disappeared after operation, and in no case did any permanent injury follow.

PYNCHON. (BISHOP.)

A DISCOVERY IN THE PHYSIOLOGY OF THE EAR.

W. F. COLE, M.D., WACO, TEX.

(Paper No. 2.)

This paper may be regarded as a sequel to the first, which was published in the May number of *THE LARYNGOSCOPE*, and can only be appreciated fully in connection with that paper, in which I set forth my observations, experiments and deductions in the conduction of sound to the internal ear.

My subsequent investigations, to date, confirm my previous assertions. I have had under observation thirty-two cases. Of these twenty-two cases had neither drums nor ossicles; in six cases drum and handle of malleus were gone; four cases had simple perforation of the drum. In all these cases I have been able to improve the hearing, more or less, by concentrating the sound by means of a rubber tube which I have devised, and a cut of which I herewith present. As explained in my first paper, when the outer drum and



EAR TUBE.

ossicles are destroyed the impaired hearing is due to the dispersion of the sound waves to the attic and antrum connected to the tympanum.

Supposing the membrane of the fenestrum rotunda to be normal, we can secure fair hearing by concentrating the sound waves upon the fenestrum rotunda. I have devised a cone-shaped tube of thin elastic rubber, curved at the apex or smaller end. Both ends of the cone are open; the curved apex with its opening is directed backward so that the sound impulses pass directly to the fenestrum rotunda. The outer end fills the external meatus in such a way that no part of the sound wave is lost. The patients learn very readily to adjust these tubes with proper forceps. Seven of my patients are now wearing such tubes, with entire satisfaction. There are very many people who have lost both drums and ossicles, and yet have good membranes over the fenestrum rotunda. The hearing of all such can be vastly improved by the system which I have devised, which

is based upon very simple principles of acoustics. The increase in intensity of sound passing to the internal ear would approximately be inversely as the area of the tympanic walls to the area of the opening of the apex of the ear tube.

In many cases I have failed to attain marked improvement, but in such cases I have found the fenestrum rotunda covered by hypertrophied mucous membrane, and I have frequently found it covered by epidermis which has apparently overflowed the whole of the tympanum from the external meatus. Such overflow of epidermis doubtless occurred during a long course of otorrhea. My experiments with the above cases suggested to me that perhaps improved hearing might be obtained in hopeless cases of atrophic catarrh of the middle ear. Karl Himly and Sir Astley Cooper, about one hundred years ago, practiced the perforation of the membrana tympani and attained marked improvement in a few cases where the Eustachian tube was closed; hence all cases not due to this cause were failures, and the practice fell into disrepute, though it has been revived with many modifications even to the present day. I have three cases now in whom I have removed the posterior half of the membrana tympani experimentally. In all I succeeded in getting some improvement, but not marked, by means of the tubes. These cases were all of many years standing, and the hearing in all was almost totally lost. I am not able yet to say whether such treatment will be justified in all such cases, but I have no doubt that there are many where such treatment will give excellent results.

It is my opinion that in most cases of atrophic catarrh the membrane of the fenestrum rotunda has been impaired by the disease, but doubtless there are many where this form of treatment affords the only hope.

I am pleased to note the receipt of many letters from both America and Europe commending my first paper. Lack of space forces me to omit many points which I would like to discuss in this paper.

Mastoid Empyema, Etc.—SMITH—*Am. Med. Surg. Bulletin*, Vol. xii, No. 11.

Often, because of the absence of indicative symptoms, an existing empyema of this process is not recognized. Bulging of the posterior-superior quadrant of the membrana tympani is a condition that is distinctly diagnostic of serious mastoid disease, even when no previous tympanic inflammation has existed, and especially if accompanied by considerable head pain, tinnitus and vertigo. Occipital pain is also of diagnostic importance. LEDERMAN.

MASTOIDITIS.*

BY ELLET ORRIN SISSON, M.D.

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It is not within the scope of this paper to touch upon all the phases of this disease; to do so would necessitate the presentation of an exhaustive paper, for the existent literature on this subject is indeed vast, and teems with clinical data that is of vital importance, and, that would have to be quoted in order to do the subject justice. Therefore, the author will confine himself to two divisions only, namely, the etiology and pathology of mastoiditis, hoping to bring out in the former some points which have recently been advanced and which have not received free discussion at the hands of aural surgeons.

As regards the etiology of mastoiditis, statistics go to show that the most common cause of an acute inflammation in this region is an extension of a similar process from the middle ear, the primary lesion being either acute or chronic in character. Primary mastoiditis, although uncommon, is occasionally seen, and may follow an exposure to cold, or a traumatism, or may be a manifestation of a tubercular or specific diathesis. The last named condition is probably the most common cause of a primary mastoid inflammation, a gummatous deposit occurring and subsequently breaking down in the characteristic manner. Inflammatory conditions within the meatus may also extend to the mastoid by contiguity. A simple circumscribed inflammation may produce this result, especially when located upon the posterior wall of the canal. Diffuse external otitis may cause a similar condition. But the most common cause is chronic suppurative inflammation of the middle ear. The middle ear, according to Dr. Lannois¹, is a closed antiseptic cavity. This was proven by a number of experiments conducted by him on dogs and rabbits, where the brain and the superior wall of the tympanum were removed and cultures made of the mucus of the middle ear in ordinary bouillon, and the results were negative. Into this antiseptic cavity microbes make their way most commonly by direct extension of the disease by way of the Eustachian tube from the throat, or, according to Merritt², through the circulation and stapes,

*Read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, Chicago, April, 1898.

occurring in the capillaries of the mucosa of the middle ear, producing an abscess which ruptures into the cavity. Taking it for granted, then, that the large majority of cases of mastoiditis are the direct result of chronic purulent otitis media, a condition which is so frequent, why is not mastoiditis produced in proportion to this frequency? Dr. Forus, of Madrid, asked this question in an aural communication to the first Spanish Oto-Rhino-Laryngological Congress, and has undertaken to answer it from an anatomical standpoint. As the result of his observations on fresh temporal bones, he has come to the conclusion that the process is due to the anatomical disposition of this region, which is quite different from the description given of it by recognized authorities. He says the tympanic cavity is not an exclusive cavity. This cavity, which, during embryonic foetal life, is filled with a gelatinous conjunctival tissue, is emptied soon after birth; but the process of reabsorption gives rise to various fibro-mucous folds. The mucosa consists of a thin fibrous tunica propria which in places resembles the reticulum of adenoid tissue and includes leucocytes. According to Piersol³, connected with the trabeculae of the mucosa, peculiar oval bodies are occasionally encountered, which are composed of an axial band and concentric lamellae of connective tissue; these bodies are normal, but probably not constant constituents of the middle ear. These fibro-mucous folds have been partially described by some by the name of ligaments, but, according to Forus, are nothing more or less than a species of epithelium which covers and protects all and each of the structures within the tympanum. The process of reabsorption referred to gives origin to a system of cavities which divide the tympanic cavity into various compartments. Of these, he says, there are two of great anatomico-pathological importance, namely, the antero-inferior and the postero-superior. Blake and Bryant, of Boston, give similar divisions, and Dench⁴, in his work on "Diseases of the Ear," says, that "the horizontal folds may completely shut off the vault of the tympanum from the atrium." Forus calls the antero-inferior compartment the tubal compartment of the tympanum, and the postero-superior the atico-mastoid compartment. In describing this septum he says: "The septum which separates these compartments, and which encloses in its thickness the chain of ossicles, originates above the Eustachian tube and extends along its anterior part in the form of a tent from the external to the internal wall of the tympanic cavity. At the external surface it surrounds the anterior muscle of the malleus, the existence of which I have been enabled to prove on the cadaver, although none of the modern anatomists make mention of said muscle."

Now, from this point, which is the anterior-external limit, it runs towards the internal wall, protecting the chorda tympani from where it leaves the anterior pocket of von Troeltsch, forming a very acute angle with the tendon of the referred anterior muscle of the malleus. The membranous expansion before reaching the malleus receives the reflex tendon of the internal muscle of the same, and from this point it gives off various expansions. Some, the internal, go to form all those ligaments which unite the hammer and its neck to the immediate regions, and which have been described by some anatomists. Another continues up to the long process of the incus along the postero-internal portion, constituting a sort of diaphragm, which has been described by Urbantschitsch, and which reaches the posterior part of the promontory, above the round window, continuing along the stapes, the latter being surrounded by it up to its base and extends up to the posterior wall to protect the tendon of the stapedius muscle. Other posterior expansions give rise to the posterior ligaments of the incus, and other superior ones to the suspensory ligaments of the ossicular chain."

In this way the tympanic cavity, as we have seen, is completely divided into two great compartments, and other smaller ones. The antero-inferior compartment, comprising anteriorly the Eustachian tube, through which it is continuous with the rhino-pharyngeal cavity, and comprising that portion of the tympanic cavity, which is in relation with the tympanum proper, and is limited posteriorly by the inferior portion of the posterior wall of the tympanic cavity, and by the septum already mentioned. It then has in its posterior cavity the opening for the round window, and as a proximal limit we have the oval window enclosed in the thickness of the referred septum. All these constitute the antero-inferior chamber.

Above the septum already described is the other compartment, made up of the attic, antrum and mastoid cells.

He says that after due deliberation he believes that this is a normal division of the tympanic cavity, and serves to explain various facts, namely, that the otitis which we call catarrhal is not pan-otitic, but otitis of the tubal chamber; that is, that as we consider some otitis as being limited to Prussack's pocket, or pouch, we should likewise bear in mind that all the catarrhal otitis, by tubal infection, remain in their propagation, limited to the antero-inferior or tubal chamber, and that they require some time before destruction of the septum described permits the process to invade the mastoid region.

By experiments on the fresh cadaver he proved the truth of his statements. He attached the canula of an irrigator to the Eustachian

tube, after removing the superior wall of the mastoid antrum, and injected water, which did not flow out when the level of the fluid was in favor of the irrigator. Allowing the deposit to ascend to four or six centimeters, the water did not flow out, although its level made one suppose that the fluid most likely had passed into the mastoid region. Then, to assure himself that there was no tubal obstruction, he made a paracentesis, when the fluid was seen to make its exit with abundance through the tympanic wound. Shortly afterwards, when the external auditory canal was tamponed, the water did not come out through the mastoid region; but on lifting the vessel still higher he observed that when it was 24, 26, and in one instance 30 centimeters above the level of the water over preparation, the septum described ruptured, and then the water made its exit in an abundant stream through the mastoid antrum, as occurred before through the external auditory canal.

In judging the true merits of this experiment, he truly says, we must not lose sight of the fact of the loss of resistance which takes place in the organic tissues after death.

These anatomical observations are certainly valuable; as to the theory advanced, that it is due to them that mastoiditis is rare in relation with cases of suppurative otitis, only careful observation of such cases will prove. But it is indeed curious that from the intimate relations which exist between the mastoid cells and the tympanum, the latter cavity may be the seat of a purulent inflammation for years without producing a similar condition within the mastoid.

Passing to the pathology of mastoiditis, we note that a chronic purulent otitis media causes certain changes in the mastoid; these changes may be of a hypertrophic or a degenerative character. In the former we have an increase in the vascularity of the parts, resulting in the thickening of the membrane lining the cells. These changes continuing lead to a deposit of new osseous tissue, which in the most marked cases, converts the entire process into a mass of compact bone of ivory-like consistence, and obliterates the cells completely. Where the changes are of a degenerative nature a local necrosis generally results. If this affects the large area, a sequestrum is formed which is either exfoliated spontaneously or demands operative measures for its removal. If the destruction takes place over but a limited area the disintegrated tissue is discharged as pus; when moderate in amount, and a free exit is afforded through the external auditory canal, the copious discharge from the canal may be the sole evidence of the involvement of the mastoid cells. If, however, drainage is not free, symptoms of pus retention are mani-

fested. The results that may be produced by the presence of this infectious material within the bony cavity are a copious otorrhea as mentioned, and, if drainage through the canal is impeded, the fluid seeking an exit evacuates itself spontaneously where the least resistance is offered. The evacuation may take place through the external mastoid cortex, either behind the ear or in the external meatus, or through the cortex in the digastric fossa; it may even take place through the roof of the antrum or of the tympanic vault into the middle cranial fossa, or it may empty into the posterior cranial fossa by way of the groove lodging the lateral sinus. The invasion of the cranial cavity leads to inflammation of the meninges, which may be diffused or circumscribed, in the former leading to leptomeningitis, while in the latter an epidural abscess is formed, the pathology of which it is not necessary to dwell upon.

The intracranial contents may be involved without internal rupture, the free anastomosis between the blood vessels of the dura and the pericranium furnishes an avenue through which the infectious material may be carried to them. And, as the result, we may have in addition to the two conditions already mentioned a thrombosis of the lateral sinus, or an abscess within the brain substance. Where rupture takes place upon the external surface of the mastoid, it is commonly supposed that all serious danger of involvement of the intracranial contents is at an end, although the abscess may not be immediately evacuated by incision of the overlying soft parts. Dench points out the fact that this is an error, particularly in the case of children. Here, as we know, the sutural lines between the various portions of the temporal bone are not completely ossified, and when the external surface of the temporal bone is bathed in pus, infection through the sutural line or through the substance of the squama itself, is by no means impossible. Dench⁶ has reported one case of this character in a child, and one in an adult, while several other instances may be found in otological literature. Again, because of non-development of the parts in children we may have pus beneath the integument in the post-aural region, without perforation through the cortex. In these young subjects a collection of fluid within the tympanic vaults frequently makes its way along the superior wall of the canal, gaining exit from the cavity through the Rivinian segment by dissecting the soft parts away from the bone in this location. Perforation of the cortex on the anterior surface—that is, through the posterior wall of the bony meatus—may occasionally occur. Spontaneous evacuation here is probably due to the fact that in the particular case the external cortex is thicker, while along the pos-

terior aspect of the canal the pneumatic cavities are well developed and thin-walled. Again, we must remember that the mastoid cells may extend as high as within half an inch of the temporo-parietal suture. Anteriorly the pneumatic cells extend forward over the external auditory canal. Hyrtl, according to the authority of Schwartze, found three skulls (among three hundred which he examined for this purpose) in which the pneumatic cells extended even into the occipital bone, and Buck⁶ reports a case in which there was a large abscess in the body of the mastoid process where in trephining the skull he found pus between the outer and inner tables of the occipital bone, a short distance back of the temporo-occipital suture, and in the light of Hyrtl's discovery it was equally probable that pus found at this remote spot was really lying in pneumatic spaces which stood in direct communication with those immediately surrounding the abscess. Now, as to the conclusions to be drawn from these observations of the etiology and pathology of mastoiditis:

1. As previously stated, the large percentage of cases of mastoiditis are the direct result of chronic purulent otitis media, but that they are not produced in proportion to the frequency of the latter and therefore there must be some existent condition or conditions that exert an influence in this direction.

2. That in the light of anatomical observation the pathological conditions are not necessarily the same in any two cases, and that such observations tend to more firmly establish the fact that an inflammation of the mastoid process is a condition fraught with great danger to life.

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Purulent Otitis Media—LUDEWIG—*Proceedings German Society of Surgery, Berlin*, April 13, 1898.

Dr. Ludwig spoke on this subject and exhibited many ossicles removed in this condition. He stated that the radical treatment required their removal and that it would be well to practice this oftener.

SCHEPPEGRELL.

DISEASES OF THE MIDDLE EAR.

ROBERT M. LAPSLEY, M.D.

Professor of Ophthalmology and Otology, Keokuk Medical College, Keokuk, Iowa.
(Written for THE LARYNGOSCOPE from Vienna, Austria.)

The subject I have taken might amuse some of the members of our profession who have given years of study to the many pathological conditions embraced in this somewhat intricate subject, but I am taking advantage of the above title to make a few remarks on what I have observed here in Europe. I had the pleasure for some time of attending the various otological and rhinological clinics of London, and it seems to me the value of the clinics of our world's metropolis is somewhat underestimated. Clinical material is certainly abundant, and in many hospitals too much so for the size of hospital and staff. There are a number of good ear clinics in London, and considerable pains is taken in their management.

I was impressed more in London than any place else I have been with the great importance of adenoid vegetations in the naso-pharynx as a cause of middle-ear disease.

For some years this has been recognized as one of the chief causes of middle-ear disease in children, but an attendance at the Central London Throat Hospital made me believe that most children with middle-ear disease, in London, have adenoids. The method of dealing with these cases in large numbers has reached quite a degree of perfection there. On Friday afternoons, often dozens of cases are operated on, and all under an anæsthetic. I have followed a method widely used in America of placing the patient on a table with head over the end so the blood does not run down the throat, and, of course, the patient under influence of an anæsthetic, generally chloroform. Here the patient is seated in front of operator, given nitrous oxide gas, operated on by curette, forceps and finger nails, and in an extremely short time all is finished and the patient taken out. The method seems a good one in large numbers of cases, but in private practice is hardly necessary. The influence of these operations is naturally quite beneficial in most of the cases of the middle-ear disease, and it is quite likely it will materially affect the amount of ear disease in the generation now growing to manhood.

Dr. Dundas Grant makes considerable use of the injections of paroline in chronic middle-ear catarrhs; and, by the way, he is

working in this large clinic with an enthusiasm and energy that is not only beneficial to his patients, but is rapidly making him one of the most popular of otologists.

The Golden Square Throat Hospital has also a large clinic—and the Royal Ear Hospital, while not so large, has a clinic in which much good work is done. For some weeks recently I have been attending the ear clinics of the eminent otologists of Vienna.

The name of Professor Politzer is known, probably, not only to all the medical profession, but even to most students of medicine. He is still working earnestly in the large clinic he controls at the Allgemeines Krankenhaus, and is doing much toward elucidating the many unsolved problems in otology.

One feels while listening to his lectures and watching his work that he is getting the most advanced thought.

This seems a great center of otology. Professor Politzer has many cases of suppuration of the middle ear, both acute and chronic, and it is interesting to note that he does not diagnose his ear cases until the ear is clean, and in many of the cases not until Siegel's otoscope has been used to demonstrate a cicatrix or a perforation. This seems very simple, but I have noticed the carelessness of so many otologists in these small but important matters. He is careful in chronic suppuration to cleanse the ear thoroughly, and to remove any cholesteatoma, if possible. In cases where a mastoid operation is found necessary, he usually does what he calls the radical operation; that is chiseling into the antrum and then removing the posterior wall of the canal. The Stacke operation, where only the outer wall of the attic is removed, and the antrum opened from the canal is seldom done. I mention this distinction because different people have described these operations to me differently.

Professor Politzer makes quite a point in exudative catarrh of performing paracentesis and removing the fluid by means of air douche, Siegel's otoscope, etc.

In chronic middle-ear catarrh he also uses injections of oil to some extent, and also simple inflations, massage and sometimes bougies.

I believe we are indebted to Dr. T. F. Rumbold, of St. Louis, for valuable work in the introduction of intra-tympanic injections of oil in treatment of ear disease, and I am glad to see it used so extensively and recognized as having merit.

Professor Urbantschitsch also conducts an interesting and instructive clinic. He also does the radical mastoid operation in many cases.

In his clinic bougies are used in the treatment of the middle ear and Eustachian tube quite extensively. He also uses electricity for chronic middle-ear catarrh.

I will review the few points I have attempted to give: First, in children with ear disease, adenoids should always be sought for, and, if found, removed; second, in the treatment of exudative catarrh the fluid should be removed from the middle ear; third, in the treatment of chronic catarrh, even in sclerosis, we should attempt the various methods of treatment (unless they seem to do harm) which consists in treatment of the cause, inflations, injections of gases or fluids, use of bougies, massage, electricity and possibly other methods; fourth, in treatment of suppuration as near antisepsis as possible should be carried out, and in proper cases operations must be resorted to. It must be remembered though that radical operations of the mastoid are accompanied by some danger, and should only be done where there is some positive indication. At best the after-treatment is prolonged, and while many operators say the operation is now rather simple, I have seen quite a number of cases of facial paralysis following operations by our most eminent men, and that should be sufficient, if there were no other reasons, to make one pause before doing such an operation, and see if it is really necessary.

Traumatic Rupture of the Tympanic Membrane—WM. BRAISLIN

—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

Seven cases are reported. The author's conclusions are:

1. Drum may be ruptured without direct impact of foreign body upon the membrane; *i. e.*, by the expansive force of air condensed within the canal.
2. Pre-existing middle-ear disease predisposes.
3. Some can be recognized by the present condition of opposite ear.
4. Prognosis of uncomplicated perforation was good.
5. With severe tinnitus prognosis should be guarded, as same may result from labyrinthine concussion.
6. Treatment till perforation is healed.
7. Subsequent treatment to middle ear is beneficial.

LEDERMAN.

NEW INSTRUMENTS.

A PROBE-CHISEL FOR THE EAR.

BY GOTTLIEB KICER, M.D., COPENHAGEN, DENMARK.

The accompanying illustration presents a new instrument which I have devised for bone operations in the ear. It consists of a stout handle supporting a shaft, terminating in a right-angled flange (*b c*) at the cutting end, and carrying a chisel (*a*) with a horizontal cutting edge.



Probe-Chisel, one-half natural size.

The shaft or probe (*b*) is 9.7 cm. long, the perpendicular flange (*c*) measures 0.4 cm. In the upper surface of the shaft (*b*) an angular groove is cut; corresponding with this the under surface of the chisel is shaped to fit into this groove, thus preventing any upward or lateral motion of the chisel when operating. Attached to the chisel is a small stop (*d*), so adjusted that the cutting edge of the chisel may have full play, and when driven home just touches the upright flange (*c*). The chisel is 11.7 cm. long, the cutting-

edge considerably bevelled, so that the chiseled portion of bone remains in the triangular space formed by the bevel-edge and the flange-stop.

The first instrument which I constructed consisted simply of two planes gliding over each other, the upper one being the chisel. The chisel was held in place by two bands. The tongue-and-groove principle has been recently added, and is largely responsible for the perfect execution of the instrument.

I have tried the probe-chisel on a series of cadavers; its mechanism is rapid and safe, and there is no danger of splintering the bone.

Dr. Schmiegelow has been pleased to try it, and after frequent use in operative work, has expressed his thorough satisfaction with the instrument.

The instrument is especially adapted for removing the outer wall of the atticus tympanicus and to expose the aditus ad antrum, which is so frequently involved in caries of the ossicles.

The danger of injuring the facial nerve, which by its course over and behind the foramen ovale, and separated from the aditus ad antrum only by a bony partition as thin as paper, is so greatly exposed, is avoided by the perpendicular flange (*c*) which forms the supporting buffer for the chisel.

A Laryngendoscopic Mirror—MERMOD—*Revue Hebd. de Laryng., d'Otol. et de Rhin.*, May 21, 1898.

The ordinary method of laryngoscopy gives only an incomplete image of the reality. In order to complete the laryngoscope, the author has added a second mirror, which is introduced into the interior of the larynx, an instrument which he calls the "laryngendoscope."

By the assistance of this instrument, the author has seen pathologic conditions which could not be observed by the usual method.

(The idea of examining the larynx by means of two mirrors is not a new one, but it is only in rare cases that it is feasible.—ED.)

SCHEPPEGRELL.

A SUBSTITUTE FOR A FOUNTAIN CUSPIDOR.

BY FRANK C. TODD, M.D., MINNEAPOLIS, MINN.

Being interested in the "Improved Rhinological Furniture," described by Dr. Pynchon in the March LARYNGOSCOPE, I desire to add another suggestion along the same lines.

Anything which adds to the convenience of an office, or is conducive to cleanliness, is of value, and the devices described by the doctor are certainly of this character. The cuspidor is handy and inexpensive and would be a good substitute for the fountain cuspidor where water connections are not at hand. As the doctor suggests, many rhinologists do not have a fountain cuspidor because of its great expense, but any device which simply *collects* blood and sputa is only to be used because something cleaner and more hygienic cannot be had, and should be frequently emptied, otherwise it would be offensive to most patients.



Fig. 1.

The device which I have used for several years answers the requirements as well as a fountain cuspidor and is very inexpensive. I refer to a small iron, porcelain-lined wash-bowl connected with the sewer and having one faucet, which is turned on when in use, so that blood or sputa is washed away as fast as it may be deposited. It is not only cheap, but clean and large enough to catch the matter which it is intended for, which cannot be said of the ordinary cuspidor.

The price of the bowl shown in the cut is two dollars, to which must be added the small expense of plumbing.

CORRESPONDENCE.

Editors of THE LARYNGOSCOPE:

In the report of the meeting of the Section of Laryngology and Rhinology, New York Academy of Medicine, published in the August LARYNGOSCOPE, Dr. Newcomb states that what is known as Gleason's operation should be known as Watson's operation, because "Dr. Watson had told him that he had illustrated the operation before one of the societies before Dr. Gleason had published his paper."

As far as I know Dr. Watson NEVER illustrated MY operation except that he recently told me that he had described it and that of Ash to some students at the Polyclinic and explained to them how both these operations accomplished the same object as his own.

Because both operations probably are derived from an older operation, at one time extensively practiced in Philadelphia and described in most of the books on Diseases of the Nose including my own, there is a superficial resemblance that has induced Dr. Watson to imagine that the operations are identical. This superficial resemblance disappears as soon as the mechanics underlying successful operations for deflection of the nasal septum are considered.

Watson makes a straight, beveled incision "just at the crest of the deviation" in horizontal deviations, "cuts out" any vertical deviation that may be present, and pushes the upper flap over the lower so that the beveled edges hook over each other. My operation consists of a U-shaped incision not IN but AROUND the deviation. The tongue-shaped flap thus formed is pushed through the button-hole in the septum that it covers.

When a vertical deviation is "cut out" Watson's incision becomes L or \perp shaped and consequently resembles the Ash operation: so that it is presumable that only when the straight beveled incision alone is employed does he find a fancied resemblance to my operation. This resemblance is only apparent, because the position of Watson's incision being at the *crest* of the deviation, it is necessary to make a bevel as he states in his paper, in order that there may be any overlapping. When the incision is made UNDERNEATH instead of IN the

deviation, this difficulty disappears and there is abundant overlapping without any necessity for beveling, because all of the redundancy is then in the upper flap and is utilized to the greatest advantage as a means of support tending to prevent a return to the original position when the upper flap has been hooked over the lower. Hence my incision because of its *position* and *shape* is vastly superior to that of Watson inasmuch as it renders it possible to utilize all septal redundancy as a means of support not only in a vertical direction but horizontally as well.

Watson's operation is also extremely faulty inasmuch as it makes no provision for counteracting the resiliency of the septum except by the introduction of a pin which Watson states should remain in position for three or four weeks.

In my operation it will be observed, resiliency is only active at the neck of a comparatively long narrow flap, and hence has to overcome considerable leverage before the base or lower edge of the flap can be forced back through the hole in the septum. If the resiliency is greater, as it generally is, than just sufficient to hold the overlapping edges in contact, it can be reduced by bending the neck of the flap sharply toward the formerly unobstructed nostril. In my later operations, I have been careful to do this thoroughly and also to extend the U-shaped incision as high up on the septum as possible, sometimes using a knife in addition to the saw for the purpose of lengthening separately each vertical crus of the U. It is because of the great PRACTICAL difference in our operations that Dr. Watson finds it necessary for his patients to wear a pin for three or four weeks; while I presume that all but about 20 per cent of those operated upon according to my method are able to secure success without any tedious after treatment by pin or tube. I have written in this disparaging manner of Watson's operation in order to demonstrate that it is not *identical* with mine and would have more to say on this subject if I did not feel that my point has been sufficiently proven. I trust that I shall hear no more assertions such as are attributed to Dr. Watson by Dr. Newcomb to whom I am indebted for calling public attention to the matter.

Watson's operation is described in the N. Y. Med. Journal, Oct. 3, 1896, mine in the LARYNGOSCOPE, Nov. 1896.

E. B. GLEASON.

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EDITORIAL.

MARQUETTE AS A HAY-FEVER RESORT.

The choice of Marquette, Michigan, for the meeting of the Western Hay-Fever Association this year calls attention to that locality as a resort for this class of sufferers. The writer has visited both that place and Colorado points this season, and has made investigations of their relative merits in the interest of sufferers from diseases of the respiratory organs.

At this time, when hay-fever victims are preparing for their annual pilgrimage to regions more or less immune, it will be a matter of especial interest to learn of any point that offers advantages superior

to those of the best known resorts. Bethlehem, in the White Mountains of New Hampshire, has been for many years the Mecca of this class of sufferers, but within the past few years the increase of population has brought increased travel on dusty roads, a multiplication of flowering plants to distribute noxious pollen, and has deprived the hotels of those characteristics that were most conducive to the comfort of their August guests.

For the reasons cited the most prominent members of the United States Hay-Fever Association have felt compelled to seek some other more comfortable refuge during the hay-fever season.

Colorado has been recommended as a region of immunity from this distressing disease, but it does not possess the ideal qualifications. The altitude, varying from a mile to nearly a mile and a half as one travels from Denver to Manitou Springs, tends to aggravate nervous disorders. The rays of the sun are so exceedingly bright that persons who never need to wear colored glasses at the lower levels are forced to protect their eyes here. The soil is dry and sandy and reflects the sunlight uncomfortably. The rains percolate quickly through the surface-soil, leaving a dust-laden top a few hours after a shower, and the foot-hills abound in flowering plants.

Dr. B. B. Creighton, of Manitou Springs, does not claim immunity from hay fever for that region. Moreover, the writer finds that his patients are prone to take cold even in Colorado, although not as readily as in the vicinity of Chicago.

We have improved excellent opportunities to compare the climatic conditions of Colorado Springs, Chicago and Marquette during the present season. We will speak at this time with reference to hay-fever sufferers, since they must be at their resorts by the 15th or 20th of August in order to escape their annual attacks. Nature has favored Marquette in several important particulars. The city is situated on the south shore of Lake Superior and has an altitude of about 600 feet. It is built upon a series of hills overlooking Iron Bay, and only a short distance inland we find ourselves in the fragrance-laden atmosphere of the pine forest.

The prevailing winds are from the lake, a fact of the utmost importance to the hay-fever sufferers, since they are free from dust and pollen. But there is one phenomenon which no one in Marquette could explain. The signal service reports show a prevailing dry atmosphere, notwithstanding the fact that the winds are from over the water. For this reason patients do not take cold easily, and one's power of resistance to cold appears to be increased. With a low temperature one does not feel the cold uncomfortably.

The temperature of Marquette from June to November averages lower than that of Buffalo, Cleveland, Detroit, Chicago, Milwaukee and even Mackinaw and Duluth. At 11 o'clock in the morning the writer was comfortable in the cool breezes of Marquette where the temperature was 63° F., while the thermometer in Chicago registered 86° at the same hour. The air is kept cool by the breezes from the lake, the water of which remains all the summer so cold that bathing in the surf is out of the question. However, the winds do not attain to the velocity experienced by other lake towns, for it is below that recorded in all of the cities mentioned, averaging 8.5 miles per hour.

Dr. A. F. McKay says: "During a residence of eight years on this shore (Marquette) I never knew of a case of hay fever that was not almost immediately relieved, and most cases were permanently cured. Asthma, bronchitis, pneumonia, pleurisy and catarrh are of very rare occurrence as acute affections, and when in a chronic state are almost invariably benefitted by coming into this region." These statements have been verified to the writer independently by Drs. James H. Dawson and A. Kline Thiell, of the same city, to whom we are indebted for other facts here presented. The drinking water is obtained from the lake, which has very precipitous shores and a great depth. It is pumped by the Holly system to the highest points in the city, under an average pressure of eighty-five pounds to the square inch. Monthly analyses of this water, made by the State chemist, demonstrate it to be of exceptional purity. Indeed, it takes the place of distilled water for purposes of the chemical laboratory.

There are several other features characteristic of Marquette, about which health seekers will be glad to be informed. This place is not an old, professional resort for health or pleasure; therefore it is not spoiled. It is young, fresh and inviting. You are not beset on every hand by "barkers" for hacks and hotels, and your progress is not hampered by hungry faces and outstretched hands itching for tickling tips. There are boulevards for driving and cycling; pleasure steamers for lake excursions; electric cars to Presque Isle, a charming park of rocks and tanglewood in all their primeval wildness and beauty; stately churches of native brown stone; excellent hotels; a modern opera house, and freedom from the festive mosquito.

Hay-fever sufferers will appreciate the fact that, aside from the convenient railroad facilities that make this little city easily accessible, they may reach it by lake steamers from Chicago, Buffalo and intermediate points, and avoid the dust, gas and smoke that are provocative of their attacks.

S. S. BISHOP.

ABSTRACTS AND BIBLIOGRAPHY.

I. NOSE.

Chronic Nasal Catarrh—HENRY G. OHLS—*Jour. Am. Med. Assn.*,
June 18, 1898.

Nasal catarrh, in a large majority of cases, depends upon local causes and is amenable to local treatment. Atrophic degeneration may succeed a neglected hypertrophic condition. The indications are to restore the normal contour of the nares, as more or less structural deformity is generally found, and the efficient means to that end are necessarily surgical. PYNCHON. (BISHOP.)

Micro-Organisms Found in Ozena—DE SIMONE—*Am. Med. Surg. Bulletin*, Vol. xii, No. 11.

This observer is of the opinion that there must be an individual predisposition to the disease, to which micro-organisms act as a contributing cause. He has found the following micro-organisms constantly in ozena secretions: 1. *Bacillus mucosus*. 2. *Bacillus pseudo-diphtheritic*. 3. Frankel's *diplococcus lanceolatus*. 4. *Staphylococcus pyogenes aureus* and *albus*.

Inoculation of the human nasal mucosa was followed by profuse secretion, swelling and slight redness. All of these disappearing after a few days. LEDERMAN.

Hay Fever—WM. H. WEAVER, Chicago—*Jour. Am. Med. Assn.*,
June 4, 1898.

The importance of the uric acid diathesis as a caustic element is recognized, hence the importance of internal medication, though not to the neglect of correcting intranasal obstructions. Anterior soft hypertrophies of the nasal septum, and posterior hypertrophies of the inferior turbinal, are mentioned as common exciting causes. The object of local or surgical treatment is to perfect the ventilation and drainage of the nose, and thus cause it to conform as nearly as possible to the ideal standard. PYNCHON. (BISHOP.)

Diseases of the Upper Air Passages—ARMSTRONG—*Med. et Surg. Reporter*, Vol. lxxviii, No. 4.

According to the author's observation, a very large proportion of these diseases are caused by adenoid vegetations. Surgical treatment is emphatically recommended. In atrophic rhinitis hot water as a nasal douche has given very satisfactory results. It restores lost nerve power and stimulates the circulation. He recommends the following as a suitable application:

R—Powdered thiol gr. x
 Menthol gr. v
 Liq. blancolin (paraffin liquid) si
 M. S.—Apply three or four times daily with oil atomizer.

LEDERMAN.

II. MOUTH AND NASO-PHARYNX.

Studies of Some Facial Bones—MATTHEW H. CRYER, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, April 2, 1898.

Many of our text-books contain erroneous descriptions of the anatomy of the nasal chambers. With the use of thirty-four illustrations there are shown a variety of abnormalities which are frequently met with, proving that but limited reliance can be placed upon text-book anatomy of these parts. PYNCHON. (BISHOP.)

Pathologic Conditions of the Pharynx and Contiguous Structures, During Early Childhood, Prime Factors in the Etiology of Malformed Maxillæ, Irregular Teeth, Etc.—WM. A. MILLS—*Jour. Am. Med. Assn.*, April 23, 1898.

The writer emphasizes the importance of obstructive nasal conditions in childhood as being causative of irregular teeth and external deformity of the nose. Prompt correction of the nasal trouble is recommended, as well as removal of enlarged tonsils when found. PYNCHON. (BISHOP.)

Operation for Primary Epithelioma of Uvula—WALKER DOW-
 NIE—*Glasgow Med. Journal*, February, 1898.

The growth occurred in a male fifty-six years old. He complained of difficulty in swallowing for two months. Pain, together with impaired breathing, were annoying symptoms. Examination showed the uvula to be enlarged and ulcerated. It bled on being touched. No glandular enlargements were observed. Cocaine was applied and the diseased portion was removed with scissors. After operation small quantity of fluid enters nose on swallowing. No other tissue was involved. LEDERMAN.

Anterior Pillars of the Fauces; Their Abnormality, Etiology and Treatment—GEO. T. CARPENTER—*Jour. Am. Med. Assn.*, April 9, 1898.

The writer frequently observes a chronically diseased condition of the anterior pillars. The patients do not complain of sore throat, but of a fetid breath, and sometimes of a disagreeable taste in the mouth. The tonsils exude foul-smelling secretions.

PYNCHON. (BISHOP.)

Treatment of Acute Tonsillitis—*Med. Summary*, Vol. xx, No. 4.

Thorough cleansing of the tonsils with an antiseptic solution (1 to 3000 sublimate) and finally paint the tonsil with an eight per cent solution of argentum nitrate. Kramer employs parenchymatous injections of a two or three per cent carbolic acid solution, from seven to fifteen minims being injected.

LEDERMAN.

The Treatment of Chronic Inflammation of the Tonsils—J. A. ELLEGOOD, Wilmington, Del.—*Jour. Am. Med. Assn.*, March 12, 1898.

Chronic tonsillar enlargement is often so slight as to be hardly appreciable, and the morbid process of so low a grade as to present, except at occasional intervals, but few of the usual features of inflammation. But little, at best, can be expected from constitutional treatment, as associated constitutional defects are rather the result than the cause of the tonsillar trouble. Usually the treatment is surgical. Tonsillotomy had better be done in the morning, so that as long a time as possible will elapse before the patient assumes the recumbent posture. The use of a general anæsthetic is seldom necessary, and its use causes more distress than does the pain of the operation without anæsthesia.

PYNCHON. (BISHOP.)

Practical vs. Theoretical Tonsillotomy—J. HOMER COULTER—*Jour. Am. Med. Assn.*, February 26, 1898.

Owing to adhesions to the pillars, the tonsil may often be hypertrophied and yet not protrude beyond the pillars, being, in fact, submerged. Pathologic tonsils imply pathologic complications elsewhere in the system. A partial ablation may often do more harm than good. The indication is for total removal of all diseased or hypertrophied tonsillar tissue. By such radical procedure the varying local manifestations, as recurrent attacks of tonsillitis, chronic pharyngitis, post-nasal and Eustachian tubal catarrh, cough or impaired phonation, dependent upon the presence of the chronically diseased tonsil, are corrected and the general health almost invariably improved. In operating upon the condition of tonsil which the paper describes, and in order to secure a thorough destruction of all diseased follicular tissue, the writer advocates tonsillotomy by "electro-cautery dissection."

PYNCHON. (BISHOP.)

Peritonitis: Its Etiology and Treatment—KATE W. BALDWIN, Philadelphia, Pa.—*Jour. Am. Med. Assn.*, March 12, 1898.

Quinsy is without doubt of bacterial origin. For several years the writer has treated this condition by applications with a cotton swab of spirit of turpentine in full strength, or diluted fifty per cent with compound spirit of lavender, and applied every one to three hours. Accompanying general treatment has been given as indicated; quinsy has thus been frequently aborted or the formation of pus prevented. PYNCHON. (BISHOP.)

What Operation Can Do for Cancer of the Tongue—A. T. BUTLIN—*British Med. Jour.*, *Philadelphia Med. Jour.*, February 28, 1898.

Dr. A. T. Butlin's experience with carcinoma of the tongue includes 102 cases, 53 of which occurred in his hospital and 149 in his private practice. Of the former, 16 remained free from recurrence during the three years' limit, and of the latter, 26. Removal of the entire tongue is unnecessary in every case, and should not be considered a justifiable procedure until it can be proved that a large number of persons suffering from recurrence in the mouth would have been preserved from such recurrence had the tongue been removed.

This last proposition is not supported by the author's statistics. His method consists of removing with the carcinoma three-fourths of an inch of the apparently healthy surrounding tissue. The prospects of cure have greatly increased within recent years, as is shown by Barker's statistics, in which there was only 5 per cent of cures (according to the three years' limit) in a total of 170 patients, while among Butlin's 102 cases there were 20 cures.

Inoculation of the lymphatic glands may occur so soon after the appearance of the primary lesion of the tongue that it is safe to say that, when the operation on the tongue is performed, the lymphatic glands are already enlarged. The author is strongly in favor of searching for the lymphatic glands, even though they are too small to be palpated through the skin. As a routine practice, he executes this step in the treatment four weeks after the operation upon the tongue, dissecting back two large triangular flaps, in order to expose the submaxillary, carotid, submental and parotid glands, all of which may be invaded.

It has been shown by experience that the lymphatic glands frequently become involved when no recurrence takes place in the mouth. This proposed method of treatment offers the best prospects for the patient's complete recovery. SCHEPPEGRELL.

III. ACCESSORY SINUSES.

Chronic Suppurative Ethmoiditis—LEWIS I. SOMERS, Philadelphia—*Jour. Am. Med. Assn.*, June 4, 1898.

Chronic ethmoiditis is not infrequent cause of nasal discharge, and may be associated with a diseased condition of the other accessory cavities. Owing to the proximity to the cranial cavity, danger is always imminent, and is greatly increased by delay in treatment. By examination the middle turbinal will be found to be hypertrophied. The course of the disease is generally slow, and it may continue for years before being recognized.

PYNCHON. (BISHOP.)

A Study of the Anatomy of the Maxillary Sinus, with Special Reference to Points of Practical Interest—GEO. E. SHAMBAUGH, Chicago—*The Chicago Medical Recorder*, May, 1898.

The text is illustrated by eight well-executed plates. The subject of accessory sinuses occupies the central point of interest in rhinology to-day. The anatomy of these cavities has not been sufficiently studied. Variations in their formation are frequently present. The great variety and uncertainty of the subjective symptoms which disease of the antrua may produce, make a positive diagnosis possible only when based on the results of a most careful objective examination. The treatment must be chiefly surgical, and demands for the safe conduction an accurate knowledge of the anatomy of the part.

PYNCHON. (BISHOP.)

IV. LARYNX AND TRACHEA.

Treatment of Laryngeal Phthisis—T. M. MURRAY—*N. Y. Medical Journal*, Vol. 67, No. 996.

After reviewing the modern literature upon this serious and unfavorable manifestation, the author concludes that the internal administration of creosote is an essential element in the treatment of tuberculosis. He believes that the curette and lactic acid should be placed at the head of all local treatment. Then come the phenol preparations (applications of sulphorcinate of phenol, 50 per cent solutions, and parachlor-phenol 10 to 20 per cent solutions). Laryngotomy and similar operations should only be employed in exceptional cases. Euzipnol has been found a valuable auxiliary to the curette and lactic acid.

LEDERMAN.

Ichthyol in Acute Laryngitis—CIEGLEWICZ — *Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

A cold solution of a two per cent ichthyol is highly recommended by the author to be used in an atomizer.

LEDERMAN.

The Differential Diagnosis of Ulcerative Diseases of the Pharynx and Larynx—JOS. S. GIBBS—*Medicine*, Jan., 1898.

In order to more clearly recognize the dissimilarity of the four ulcerative processes found in the larynx and pharynx, Dr. Jos. S. Gibb gives the following table, in which the individual and characteristic symptoms are placed side by side:

ULCERATION OF LARYNX.

SYPHILIS.	CARCINOMA.	TUBERCULOSIS.	LUPUS.
Pain usually slight.	Pain constant, lancinating.	Pain severe on deglutition.	No pain.
Attacks any portion of larynx, and ulcerates rapidly.	Attacks any portion of larynx, and ulcerates more slowly than syphilis.	The favorite site is in the interarytenoid space or the base of arytenoid cartilages; ulcerates slowly.	Attacks any portion; ulcerates very slowly.
Is rarely seen in the stage of induration, the first evidence being a clear-cut, deep ulcer.	The first appearance is that of a new growth occupying the laryngeal cavity; no clear-cut ulcer.	Usually the first appearance is small spots of induration, which is rapidly followed by great edema.	Nodular masses.
Some induration around the ulcer, but usually very little edema.	The growth fills or encroaches on the laryngeal cavity.	Great edema of arytenoids.	Little or no edema.
Ulcer extends deeply, often involving cartilage.	Growth extends in all directions, involving all tissues in its course.	Ulcer extends laterally, but not deeply.	Very slow in progress; ulcer rarely observed.
Surface of ulcer covered by muco-purulent secretion and necrosed tissue.	Surface of growth covered by discharge.	Surface of ulcer covered by thick muco-purulent secretion and agglutinated mucus.	Little or no discharge.
Mucous membrane hyperemic and injected.	Mucous membrane hyperemic.	Mucous membrane pale.	Mucous membrane injected.
Laryngeal stenosis not common until cicatrization occurs.	Laryngeal stenosis quite common.	Laryngeal stenosis rarely occurs.	Slight stenosis.
General health unimpaired.	Early in disease no impairment of general health; later a marked cachexia.	Health impaired previous to laryngeal involvement.	Very slight impairment of general health.
Frequently evidences of syphilitic disease in other tissues.	In primary laryngeal carcinoma, no other involvement until later in the disease.	Previous and coincident pulmonary trouble common.	Frequently cutaneous manifestations.
Rapidly improves under the iodides.	Iodides have no influence on the course of the disease.	Iodides have no influence.	Iodides have no influence.

ULCERATION OF PHARYNX.

SYPHILIS.	CARCINOMA.	TUBERCULOSIS.	LUPUS.
Pain usually slight.	Pain—lancinating, severe, constant, and often excruciating—in many cases referred to ear.	Pain severe—not constant—aggravated by efforts at deglutition or clearing the throat of inspissated mucus; sometimes referred to ear.	Pain slight, if any.
Ulcer clear-cut and punched out. Destruction of tissue great. Appears very early in the course of disease—within two or three weeks.	No clear-cut ulcer. The normal tissue is replaced by morbid growth; ulceration does not occur for two or three months after the appearance of growth.	Ulcer shallow and not clear-cut, shading imperceptibly into the normal tissue; ulceration occurs very early.	Ulceration rarely seen, the process rather being presumed by the absorption of tissue.
A profuse purulent discharge and necrosed tissue cover the surface of ulcer.	Very little discharge covers the growth; when ulceration occurs, the surface is covered by a thin sanguinous discharge.	The surface of the ulcer is covered by mucopurulent secretion and agglutinated mucus.	Little or no secretion.
The borders of ulcer indurated and hyperemic.	The growth is of stony hardness; an areola surrounds the growth; but no induration until the parts are encroached upon by the growth itself.	There is no areola or induration.	Disease consists of a series of indurated nodules.
Ulcer rapidly destructive and extends deeply.	Quite rapid in its course; extends in all directions.	Erodes slowly and laterally—not deeply.	Exceedingly slow in course.
Ulcer confines itself to pharynx; rarely extends to nasopharynx; never to larynx.	No anatomical boundaries confine the growth—extends in all directions, and attacks all tissues.	Confines itself to mucous membrane of pharynx; extends laterally.	May extend to larynx.
Cicatrices often present.	No cicatrices.	No cicatrices.	Cicatrices numerous.
General condition unimpaired.	Early in the course of the disease the general condition is good; later, however, the health fails rapidly.	General condition poor from the outset, indicating some grave constitutional disease.	General condition very slowly impaired.
Often evidences of specific disease in other organs.	No manifestation of previous disease.	Pulmonary and laryngeal manifestations.	Cutaneous manifestation previous to and coincident with the pharyngeal.
No fever.	No fever.	High fever.	No fever.
Rapidly improves under the iodides.	The disease is uninfluenced by iodides.	Is not influenced by iodides.	Not influenced.
Sputum contains no characteristic morbid product.	Examination of sputum negative.	Tubercle bacilli found in sputum.	Examination of sputum negative.
Microscopic examination of excised piece reveals large numbers of small round cells.	Microscopic examination of growth shows the characteristic cells of the various forms of carcinoma.	Microscopic examination shows the giant cell, tubercle bacilli, and other evidences of tuberculosis.	Microscopic examination very similar to that of tuberculosis.

Remarks Upon the Surgical Treatment of Malignant Diseases of the Larynx—BYRON DELAVAN, New York City—*Jour. Am. Med. Assn.*, March 12, 1898.

The writer gives quite a thorough review of the work done in this line, and notes that the mortality has been reduced from 60 to 19 per cent. The various methods of operating are described. Present indications suggest a more promising future for this class of cases. PYNCHON. (BISHOP.)

(1) Sarcoma of the Larynx; (2) Sarcoma of the Naso-Pharynx in an Infant—T. H. HALSTEAD—*New York Polyclinic Jour.*, Vol. x, No. 6.

In the first instance, the patient was a male German, fifty-seven years old. He complained of an increasing difficulty in swallowing; first noticed two years ago. Food was arrested at times about the level of the larynx. There was some difficulty in breathing. Deep-seated pain shooting to the right ear was also present.

The laryngoscope showed a rounded, grayish, non-ulcerated tumor, rather rugous on surface, and apparently originating from the right ary-epiglottic fold and posterior plate of the cricoid, partly filling the right pyriform sinus and infringing on the lumen of the larynx, obscuring all view of the right vocal cord. It was the size of a walnut, sessile, not pedunculated.

The tumor was removed under cocaine with the cold snare. A week later none of the growth was seen. In a month, however, the symptoms had again returned, and the tumor had grown to one and a half times its original size. Later tracheotomy was performed, and the patient gradually succumbed. The microscope revealed the growth to be a large round-celled sarcoma.

Case II was a young child, two years of age. When the author saw the case, respiration was labored, and apparently entirely through the mouth. Mucous membrane of the lips dusky, face milky pallor, cyanosis marked, child dull and only partially conscious. At first glance the appearance suggested laryngeal diphtheria.

Examination showed bridge of nose was broadened and flattened; cervical glands on both sides were greatly enlarged and hard; the right nasal chamber was seen to be occluded by a yellowish-gray mass which also presented itself in the oro-pharynx, pushing forward the soft palate and interfering with deglutition and breathing. The growth had appeared rather quickly, being preceded by a thin, watery nasal discharge a few weeks before the author saw the case. Some of the growth had been removed with the snare, but had promptly returned. Tracheotomy was performed, but the child died two days after the operation. A histological examination showed the tumor to be a sarcoma, and the glands sarcomatous. LEDERMAN.

Tuberculosis of the Larynx in Children—PLICQUE—*Ann. des Mal. de l'Oreille, etc.*, No. 5, March, 1898.

Dr. Plicque calls attention to the rare localization of tuberculosis in children, a subject which forms the object of the work of Siégert, who has collected twelve cases, two being in his own practice. One of these was a tuberculous child of eleven years, who had progressive ulceration and tuberculosis of the tonsil, velum palati and uvula, the surfaces being covered with a false membrane, which was filled with streptococci, diplococci and numerous tuberculous bacilli.

The author reports a case of a child of four and a half years, who had ulceration of the pharynx, which resulted in progressive destruction of the uvula and of the epiglottis, caseification of the cervical ganglions, and finally tuberculous and enteric complications.

Among the twelve cases of Siégert (*Jahrbuch f. Kinder-Heilkunde*, Vol. xlv) the uvula was affected only in two cases, the tonsils in five, the epiglottis in six, and the tongue and posterior part of the pharynx in nine. The mucous membrane of the cheek was affected in only one case. The progress is rapid; at the commencement fever is absent or but very slight; engorgement of the cervical ganglion is constant. The absence of the bacillus of Loeffler is the only means of preventing confusion with diphtheria. The prognosis is fatal. The best local application, especially where there is false membrane, appears to be lactic acid.

SCHEPPEGRELL.

A New Method of Tubing the Larynx—J. S. DE JARNETTE—*Va. Med. Semi-Monthly*, May 27, 1898.

Dr. J. S. De Jarnette reports a case of edema glottidis in a man of eighty years. Dyspnœa developed rapidly, and as an O'Dwyer's case was not at hand and the symptoms urgent, and also in view of the fact that crico-tracheotomy in one so old and feeble seemed almost hopeless, a soft rubber tube was passed through the nose into the windpipe. An ordinary œsophageal tube was used, the end being cut off just above the eyelet. As soon as the tube was inserted the labored breathing ceased and the patient at once improved. Pneumonia, however, developed within twenty-four hours, the patient dying within two days, although the laryngeal stenosis had been entirely relieved.

The advantage over the O'Dwyer method is that the tube is cheap and easy to obtain, and requires no special skill to introduce. The advantage over tracheotomy is that the air is warmed in its passage through the nose, naso-pharynx and larynx, and it does not interfere with nourishment.

SCHEPPEGRELL.

(The method described is a useful one in emergency cases. It must not be supposed, however, that the air can be satisfactorily prepared for respiration by passing through a catheter inserted into the nostril. It receives none of the moisture and but little of the heat which is furnished in ordinary respiration.—Scheppegrell.)

Syphilitic Laryngitis, with Cases—H. STRAIGHT—*Va. Med. Semi-Monthly*, May 27, 1898.

Dr. H. Straight gives a synopsis of the differential diagnosis of this condition from lupus, carcinoma and tuberculosis.

Lupus of the larynx ordinarily attacks this organ secondary to cutaneous lupus, and selects by preference the epiglottis. Carcinoma is rare; it usually attacks the ventricular bands first; the diagnosis by means of a microscope is, as a rule, easy, but it is well to try the therapeutic value of iodide of potash. Tuberculosis of the larynx is common; the anæmia of the larynx, the pear-shaped condition of the arytenoids and the association of pulmonary tuberculosis render the diagnosis easy in the majority of cases. Syphilis of the larynx is common; when mistaken for any of the diseases already mentioned, and iodide of potash is not administered, the result may be deplorable. It should therefore be given a trial in cases in which there is the least doubt.

SCHEPPEGRELL.

Precocious Œdema in Secondary Syphilis of the Larynx—LACROIX—*Med. Bulletin*, Vol. xx, No. 6.

In a young woman, married for three or four months, the author noticed a pale swelling of all the right ary-epiglottidean fold. The patient complained of pain in swallowing. A month later, internal dysphagia with pseudo-membranous patches upon the tonsils, and increased œdema. Papular and macular syphilides appeared upon the skin. The dysphagia disappeared after the first doses of mercury. The œdema of the larynx was the last to disappear. The writer believes the œdema to be a new symptom of secondary syphilis. Dr. Brindel thinks that in this case the lesion was the primary sort.

LEDERMAN.

Intubation for Foreign Body—SEVESPE and BONNUS—*Medical Record*, Feb., 1898.

A girl of five years drew a bead into the larynx, which brought on several attacks of suffocation, one of which was attended with abundant hæmoptysis. After a month intubation was performed, and in an attack of coughing following the introduction of a large tube, the bead was expelled.

LEDERMAN.

Foreign Body in the Larynx—PEYSER—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

The foreign element was a piece of bone four-fifths of an inch long and three-fifths of an inch wide. It was in position for four months. No symptoms were noticed except some pricking in the throat and occasional dyspnœa.

LEDERMAN.

A Foreign Body in the Air Passages—E. PEGESSOC—*Med. Record*, April 23, 1898.

Intra-tracheal injection of cold water succeeded in expelling the foreign body, without necessitating a tracheotomy. No history given.

LEDERMAN.

Spasmodic Closure of the Glottis in an Adult—HAMILTON STILL-
SON—*Jour. Am. Med. Assn.*, February 26, 1898.

The cause of the condition is usually reflex and is but a symptom of some remote nerve lesion. There are two varieties, one in which there is spasm of the adductor muscles of the larynx, in the other paralysis of the abductors.

The former occurs in such nervous diseases as chorea and hysteria. It is usually of short duration, is relieved by temporary anæsthesia, and when let alone subsides before unconsciousness supervenes.

Of the latter class there are two forms, one seen in such diseases as epilepsy, the other in such diseases as ataxia. In the epileptiform cases the attacks occur suddenly, without premonitions, are of short duration, and there is usually entire loss of consciousness.

In the ataxic form, while the patient may fall he does not lose consciousness. The attacks are less sudden, less transient and are often preceded by premonitory symptoms. The principal difference is that there is paralysis or paresis, more or less constant, between the periods of dyspnœa. This form of closure of the glottis is worthy of careful study because it is sometimes the only observable precursor of ataxia.

ANDREWS. (BISHOP.)

Laryngeal Stenosis Due to Advanced Tubercular Disease Relieved by Intubation—D. B. DELAVAN—*N. Y. Polyclinic Journal*, March 15, 1898.

Dr. D. B. Delavan reports prompt relief from the introduction of a tube in a young lady twenty-three years old. This patient was suffering from pulmonary and laryngeal tuberculosis, and was attacked with suffocative seizures which at times threatened her life. During one of these attacks the author was consulted, and as the condition of the patient did not warrant a tracheotomy, intubation was performed with a happy result. The patient immediately breathed freely through the tube, and was placed in bed. Ten minutes later she was enjoying a quiet sleep. The tube was worn with absolute comfort for a week, at the end of which period it was removed to be cleaned. There was so much improvement in the condition of the larynx at that time the tube was not reintroduced. Another suppurative attack, however, soon followed, and the same good result was noticed after the tube was placed in position. This treatment was continued repeatedly to the end.

LEDERMAN.

The Development and Care of the Singing Voice—R. MCKINNEY
—*Memphis Med. Monthly*, May, 1898.

Dr. R. McKinney gives a study of the singing voice and its care, with special reference to breathing and correct physiologic nasal respiration, in which the methods of Dr. H. H. Curtis are closely followed.

SCHEPPEGRELL.

Laryngeal Necrosis in Enteric Fever—SIR GEORGE DUFFY—*Dublin Journal*, March, 1898.

In the opinion of the author, the inflammation and ulceration of the laryngeal mucous membrane (which is the usual starting point of perichondritis and subsequent necrosis of the laryngeal cartilages in these cases) is of a specific nature, the result of the typhoid bacillus. He reports a fatal case of a young man, twenty-two years of age, who complained of throat symptoms a week before his death. These were attacks of coughing, with great difficulty in breathing, and hoarseness. Tracheotomy was not attempted on account of the serious condition of the patient.

Post-mortem examination showed typical typhoid ulceration in process of cicatrization in the ileum, together with enlargement of the mesenteric glands and other lymphatics. The epiglottis was swollen and edema of the ary-epiglottidean folds was seen. On the external and posterior surface of the plate of the cricoid a small, dirty-yellowish spot was noticed. An incision was made through this area, which opened a small abscess containing half a drachm of pus. The underlying cartilage was roughened and eroded.

LEDERMAN.

Chorditis Vocalis, Inferior—OTTO J. FREER, Chicago—*The Chicago Medical Recorder*, February, 1898.

The paper consists of the report of a case of subglottic neoplasm, with a general review of the literature of this class of rare cases.

PYNCHON. (BISHOP.)

Paralysis of the Recurrent Laryngeal in Mitral Stenosis—*The Med. Times and Register*, Vol. xxxv, No. 11.

Symptoms of hoarseness with great dyspnoea were observed in a boy seventeen years old. Complete paralysis of the left vocal cord was present. Examination of the heart revealed a systolic murmur. At the necropsy the heart was found generally enlarged, with pericardium universally adherent. Evidences of fungoid endocarditis were even present. The left auricle was enormously dilated and pressed upon the recurrent nerve.

A similar condition was observed in a woman of thirty-four years, with a rheumatic history. There was a complete paralysis of the left vocal cord. At the autopsy the mitral valve showed button-hole stenosis, with the left auricle immensely enlarged, squeezing the recurrent laryngeal against the aorta and leading to its degeneration.

LEDERMAN.

Two Cases of Ludwig's Angina or Sublingual Phlegmon—W. E. CASSELBERRY, Chicago—*The Chicago Med. Recorder*, May, '98.

Two cases of this unusual disease are reported, and a resumé of the literature given. Early and free incisions are recommended. Serious dyspnoea, indicative of oedema of the larynx, should be promptly met by tracheotomy, which, to be effective in cases of impending suffocation, must be done at once, else the continued suction upon the pulmonary blood vessels, produced by muscular efforts at respiration when the glottis is closed, will result in fatal oedema, notwithstanding relief.

PYNCHON. (BISHOP.)

V. EAR.

Eczema of the External Auditory Canal—J. W. MAY—*Med. et Surg. Reporter*, Vol. lxxviii, No. 4.

No fluids, soap, or water, should be used. Local and internal medication are advised.

R—Acid phos. dil..... $\frac{3}{iv}$
 Tinc. ferri chlor..... $\frac{3}{ii}$
 Syr. limonis..... $\frac{3}{iii}$
 M. S.—Teaspoonful in a wine glass of water after meals.
 Pil. aloni comp. $\frac{1}{8}$ grain night and morning for constipation.

Locally:

R—Acid carbol. pur.....gr. xx
 Unq. zinc ox. benz..... $\frac{3}{i}$
 M. S.—Apply freely.

LEDERMAN.

Earache: Its Importance—HINKLE—*Med. Summary*, Vol. xx, No. 4.
 A summary of cautious remarks.

LEDERMAN.

Earache and Discharging Ears in Children—MORROW—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

This observer believes that the common cause of earache is an acute otitis media. Nasal and post-nasal lesions must be looked for. The mouth and teeth should always be examined. Eruption of the "molars" is often preceded by purulent otitis media. Infectious diseases are mentioned as frequent causes.

LEDERMAN.

Prevention of Scarlatinal Otitis—CANBY—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

As a preventive the author paints the pharynx with a solution of resorcin or naphthol-camphor. The resorcin solution's strength is ten per cent. The formula for the naphthol-camphor solution is:

R—Betanaphthol..... $\frac{3}{iiss}$
 Camphor..... $\frac{3}{v}$
 Glycerine..... $\frac{3}{i}$
 M. S.—For external use.

LEDERMAN.

On the Prevention of Pyemic Complications from Acute Otitis Media—B. F. CHURCH—*Southern California Practitioner*, Vol. xii, No. 6, June, 1898.

Church's paper is a timely resumé of the methods now favored in the attempt to prevent infection in acute suppuration of the tympanum, and for this purpose he emphasizes the importance of early recognition of the condition and an early incision of the membrana as performed by Tansley, of New York, and of late freely written and spoken of as "Tansley's Cut in Acute Attical (sic) Disease." Church would class all acute inflammations of the tympanum under the heads of *infected* and *non-infected*. EATON.

Simple Device in the Treatment of Acute Otitis Media—SETH S.BISHOP—*The Times and Register*, Vol. xxxv, No. 12.

A piece of cotton is placed lightly in the mouth of the canal. A pipe is filled with tobacco and lighted. Then a piece of clean cloth is placed over the mouth of the pipe-bowl and gently blown through, while the lip piece of the warm stem rests against the cotton pledget. This filters the warm smoke and a grateful sedative effect is soon obtained.

LEDERMAN.

Ossiculotomy in Chronic Suppuration of the Middle Ear—J. A.STUCKY—*Jour. Am. Med. Assn.*, March 26, 1898.

When caries of the ossicles exist, the writer advises removal of same, and of all necrosed tissue, and thorough curettement of granulations, so as to give free drainage through the external auditory canal. General anæsthesia must be employed. Attention is called to the necessity of correcting all obstructions to nasal respiration, which, if neglected, will tend to prolong the tubal and middle-ear trouble.

PYNCHON. (BISHOP.)

Pyæmic Sinus Thrombosis, Etc.—FRED. WHITNEY—*Archives of**Otology*, February, 1898.

This very interesting resumé, based upon three successfully operated cases, is a valuable contribution to the subject. Chronic suppuration of the ear is responsible for the greatest number of intra-cranial inflammations. Authorities have found that micrococci and bacilli were always associated in fetid secretions, while in the non-fetid only micrococci were present. Poliver determined "by culture and inoculation that the bacilli present in foul discharges were not pathogenic, but possessed saprophytic properties only, while inoculation with the micrococci produces speedily fatal sepsis." Gruber states that this conclusion demonstrates that the offensiveness of a discharge from the ear is no criterion of the dangers to be apprehended by it. The healthy muco-periosteum offers a strong resistance against the invasion of bacterial products, and consequently absorption is very slow, the micro-organisms being destroyed by the phagocytic properties of the leucocytes. When the disease becomes chronic the tissue defense becomes greatly lessened.

*The author recognizes two varieties of sinus thrombosis, viz., primary or marasmic, and secondary or infective. The last named is the usual form following middle-ear suppuration. The "path of infection" in septic brain diseases is most commonly from direct extension from diseased bone lying in contact with the skull contents.

In a thrombosed sinus, "disintegration of the clot may be sufficiently extensive to cause a partial restoration of the lumen of the vessel, and the current be re-established either through the center

of the thrombosis, or between it and the nasal wall, in which manner portions of the septic material are swept into the circulation and deposited elsewhere, giving rise to metastatic abscesses characteristic of pyæmia." Furthermore, general infection may result from lymphatic absorption of the pyogenic organisms which penetrate the walls of the diseased veins and sinus and infiltrate the adjacent tissues.

"An attack of sinus phlebitis is usually ushered in by pain over the affected side of the head, malaise nausea, preceded or followed by a sudden chill and a sudden and pronounced rise in temperature, 106° F. being frequently observed."

Rigors are a characteristic symptom. Vertigo is more constant when associated with meningitis. It is not a distinguishing symptom. Consciousness is a very varying symptom. In the early septic stage, Griesinger's symptom, œdema of the region of the occipital vein, with marked tendencies on pressure in the upper portion of the post-cervical triangle, is a valuable guide. Œdema of the eyelids of the affected side at times assists in arriving at a prompt diagnosis.

Zanfà (1880) first suggested the feasibility of opening and cleansing the sinus from purulent thrombi, and of ligating the internal jugular as a prophylactic measure.

WHEN TO OPERATE.

Körner says "as soon as you have made the diagnosis of sinus thrombosis, the moment to operate has arrived." The author believes that the tendency of infective thrombosis is always toward disintegration and the establishment of metastatic embolic processes. He further recommends that operators should always ligate the internal jugular vein when the sinus contains purulent material or a disintegrated clot. If the clot extends into the jugular vein, the vessel should be tied at the lowermost portion of the obstructed vein and as high up as possible, and then researched. In this method you avoid the probable infection from decomposition of the clot, if the diseased skin was not removed.

In cases where we cannot re-establish the circulation from below the jugular bulb, whether the disintegrated clot has been removed or not, the author states that it is your imperative duty to ligate the jugular vein. It is very gratifying to observe that he also enters a vigorous protest against the danger of manipulating a diseased vein in the neck in the hope of dislodging the clot. This procedure is more apt to favor the further spread of the infectious material.

At the present time the prevailing opinion of operators is to tie the jugular in all cases where toxic symptoms are pronounced, or where metastases are already present. The jugular vein should be tied before the sinus is opened. Voss recommends that the sinus should first be uncovered and the diagnosis verified, and then ligate the jugular.

The author reports three very interesting successful cases, with detailed histories and remarks. He summarizes as follows:

FIRST.

The indications for jugular ligation in thrombosis of the sigmoid sinus, before exposing the sinus, are:

- A.—The existence of chronic otorrhœa.
- B.—Pronounced manifestations of pyosepticæmia, high fever, sudden remissions and repeated rigors.
- C.—Metastases.
- D.—Griesinger's symptom, occipital œdema.
- E.—œdema of eyelids of corresponding side.
- F.—Tenderness along the course of the jugular in the neck, and perhaps the cord-like feeling of the infected vein.
- G.—Beginning neuro-rhinitis.

SECOND.

The indications for ligation after exposing the sinus and recognizing the thrombosis, but before opening it:

- A.—The presence of a clot extending well down into the bulb and disintegrated in its lower portion (as indicated by aspirator), associated with distinct pyæmic symptoms, although metastases are absent.
- B.—The display by the sinus of respiratory movements would render probable the admission of ærial embolism to the heart unless the vein was first tied; such movement in the sinus wall indicates the presence of a clot somewhat back toward the torcular from the point where the aspiration takes place, and has been noted by Jansen, Schwartz and Körner, while sudden and fatal asphyxia from ærial embolism of sinus has been reported by Kuhn.

THIRD.

Indications for ligation of the exposing and opening of the sinus:

- A.—The presence of a large thrombus, extending down into the bulb, and having undergone purulent liquefaction in the deep bulbous portion, which may not have been diagnosed until the sinus was extensively opened; the curetting deeply into the neck under such conditions is fraught with imminent risk to the patient unless the vein is tied.
- B.—Inability to re-establish the circulation from below, whether the clot has or has not been disintegrated, and whether or not there has been tenderness in the neck.
- C.—Inability to re-establish the circulation from either direction has aroused some discussion as to the advisability of ligating both jugulars, but the author does not find that any serious consideration has been devoted to this purpose.

He believes that it is a dangerous practice to place the nozzle of the syringe in the divided end of the jugular, near the bulb, and wash out the contents forcibly upwards and out of the opening in the sinus wall. For if the visceral layer of the wall is softened the injected fluid may rupture it and pass into the subdural or sub-arachnoid space, thus distributing infective material.

LEDERMAN.

Diseases of the Mastoid; Their Course and Treatment—FRANK S.MILBURY—*Jour. Am. Med. Assn.*, April 30, 1898.

Owing to the arrangement of the ossicles and folds of mucous membrane, they may, by slight inflammatory swelling, close the narrow opening to the attic and thus constitute a serious factor in middle-ear pathology. Attention is called to anatomical peculiarities occasionally met with. The indications for operation are clearly given and the various steps of the operation lucidly described. In suitable cases the use of the electric engine is recommended.

PYNCHON. (BISHOP.)

A Case of Spontaneous Mastoid Pneumatocele—N. JOSSERAND ANDCARLE—*Revue Heb.l. de Laryng., etc.*, May 7, 1898.

Drs. N. Josserand and Carle report a case of a patient of twenty-one years, who, at the age of eleven, suffered violent pains of the auricular and mastoid region. At sixteen years he suffered from vertigo when his head was suddenly lowered, stared long at an object or bright light, or became excited or angry. At the same time when he developed a slight degree of deafness, the patient observed at intervals, and while making violent efforts, a small tumor on each side of the mastoid apophysis, but more marked on the right. This disappeared spontaneously, after having been accompanied at the moment of its appearance by slight pain.

Six days after entrance into the hospital the patient developed intense pain in the neighborhood of the mastoid region, with vertigo, vomiting and fever. The skin was somewhat tumefied and the tumor non-reducible and dull on percussion. The canal and the tympanum appeared normal.

An incision was made through the tumor and gave vent to a few drops of pus. The bone was explored with care, but nothing abnormal was found. The wound was then closed, which healed rapidly. The tumor did not reappear. In regard to the pathogeny of spontaneous mastoid pneumatocele, the author states that it is due to an arrest of development near the petro-squamous suture and not, as above suggested by Hyrtl, to a superficial atrophic bony lesion.

SCHEPPEGRELL.

The Relation Existing Between Bright's Disease and Certain Ear**Symptoms**—FRANCIS DOWLING—*Jour. Am. Med. Assn.*, March

26, 1898.

The writer reports two cases wherein impaired audition and the presence of subjective symptoms were observed in connection with organic kidney disease, which he is disposed to regard as being the cause of the aural manifestations, through the retention of morbid matters in the blood, and their producing toxic irritation or degeneration of the nerve filaments in the labyrinth.

PYNCHON. (BISHOP.)

Ptosis as a Symptom in Abscess of the Temporal Lobe—STEINBRÜGGE—*Med. Record*, April 2, 1898.

Körner first called attention of this symptom associated with an abscess of the temporal lobe of the brain. In the case reported by the author, the abscess followed a purulent otitis media. He believes that the ptosis in his case was not due to a spasm of the orbicularis palpebrarum, but to a paresis or weakening of the innervation to the levator palpebræ.

LEDERMAN.

Convulsions Due to Aural Disease—VERDOS—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

These symptoms appeared during acute exacerbations and were promptly relieved by incisions into the inflamed membrana tympani.

LEDERMAN.

Auricular Vertigo Due to Foreign Body Thirty Months in Auditory Canal—M. CERF—*Am. Med. Surg. Bulletin*, Vol. xii, No. 12.

M. Cerf observed these symptoms in a child of eight years. While running, the boy would suddenly fall. Fox's auricular cough (short and dry) was noticed. No history of any ear trouble. The syringe removed three pieces of gravel from the auditory canal, which a companion had thrown into the child's face thirty months previous. All symptoms disappeared.

LEDERMAN.

Auricular Manifestations of Grippe—COURTADE—*Revue Hebdomadaire de Laryng.*, etc., April 30, 1898.

Dr. Courtade states that auricular affections in grippe may develop various clinical characters, such as simple catarrhal otitis, and acute otitis media, which prompt treatment may remedy, or which, within a few days, may develop suppuration or suppurative otitis media, with its mastoid complications, more or less frequent and grave according to the virulence of the epidemic or the subject in which it develops. A less frequent form develops hemorrhagic blebs upon the tympanum and auditory canal.

SCHEPPEGRELL.

Contraction of the Jaws in Suppurative Lesions of the Ear—

A. PIETRO—*Revue Hebdomadaire de Laryng.*, d' Otol. et de Rhin., May 7, 1898.

Dr. A. Pietro states that this phenomenon has been but rarely observed. When it develops it is due to a spreading of the purulent process by way of the openings through which the malleo-maxillary ligaments and the tympanic cord pass.

The uncertainty of the seat or of the degree of the temporo-maxillary ankylosis does not form a real contraindication for the resection of the condyles of the jaw. The operation is not complete unless the suppurative process in the tympanum is remedied, and at least the tympanic ring removed.

SCHEPPEGRELL.

Epidemic Cerebro-Spinal Meningitis—W. T. COUNCILMAN—*Maryland Med. Jour.*, Vol. xxxix, No. 7.

The ear lesions in this disease are always secondary. Some cases of secondary otitis media, in which diplococci were found in the pus cells, offer proof of the extension of the infection from the brain.

LEDERMAN.

Adenoid Vegetations of the Vault of the Pharynx, with Special Reference to Anæsthesia in Operating—LENZMANN—*Ther. Monats.*, April 23, 1898.

Dr. Lenzmann is of the opinion that a thorough, sure and safe removal of vegetations is absolutely necessary. He operates on patients only in the sitting posture, children being held on the lap of a nurse. The operation should be conducted in that stage of anæsthesia in which the sense of pain has disappeared, but the reflexes not abolished. A mouth-gag is not recommended, since it renders swallowing difficult. For opening the mouth, an ordinary spatula is sufficient. First the tonsils are removed by the Mackenzie tonsillotome, if necessary, and then the adenoid vegetations with the Gottstein curette.

After the operation, the author recommends rest in bed and fluid diet, for a few days nasal tampon, and finally swallowing of ice. He has seen numerous cases of anorexia, with hypertrophy of the pharyngeal tonsils, in which no other cause could be found, in which the removal of the adenoid growths gave excellent results.

(The mouth-gag is almost indispensable in the majority of cases. The nasal tampon is not only superfluous, but even dangerous, unless the greatest care is exercised.)

SCHEPPEGRELL.

Some Further Results in Treating Ears by Massage Methods—

LOUIS J. LAUTENBACH—*Jour. Am. Med. Assn.*, March 26, 1898.

By massage the impairment of hearing is diminished and the tinnitus, unless attended by severe aural vertigo, is generally improved. The effect of this treatment is beneficial in both middle-ear and labyrinthal cases. In the middle-ear cases it is principally due to the direct or mechanical effect of the intermitting air suction. In the labyrinthal cases the stapes is caused to resume its normal elastic hold in the window, and thus nerve pressure is relieved. Additionally, the dormant nerves are awakened from disuse by the rhythmical sounds in combination with the intermitting suction. By restoring the normal mechanical action in a diseased ear much is done towards its cure, and in recent cases means should be used to attain this end as soon as the acute inflammation has sufficiently subsided. In this way the number of chronic catarrhal cases would rapidly grow less. Massage will often do away with the requirement for middle-ear operation, which in fact should never be attempted until after massage has failed to improve the hearing and relieve the tinnitus. Suppurative cases are also favorably influenced by massage, which cleanses the attic by suction with vibration of the ossicles.

PYNCHON. (BISHOP.)

Labyrinthine Phenomena Dependent upon Middle-Ear Diseases, and Their Relief by Local Treatment—E. DENCH—*N. Y. Poly-clinic Journal*, Vol. x, No. 6.

In a class of cases which have come under the author's observation, the history given pointed to some recent inflammatory process in the middle ear. The lowest tones of the musical scale were well heard; the upper tone limit was either considerably reduced or normal, and bone conduction was either entirely absent or much below the normal standard. Eustachian tubes were reduced in calibre, but the air entered the tympanum easily upon catheterization. Inflation produced a harsh sound, indicative of the presence of mucus in the canal. Inflation frequently caused slight vertigo. Functional examination in these cases gave all the characteristics of a labyrinthine lesion. The results of internal medication were negative. Immediate relief, however, followed the application of the Eustachian bougie. The author believes that rarefaction of the air within the middle ear may so alter the labyrinthine tension as to produce an actual traumatic affection of the labyrinth. Where the Eustachian tube becomes suddenly occluded, from any cause, the sudden reduction of air pressure within the middle chamber may bring about a similar condition of increased labyrinthine concussion. If these cases are allowed to go without treatment, organic changes occur in the labyrinth, and no improvement will follow the treatment of the middle ear.

LEDERMAN.

Training the Deaf—SCHEPPEGRELL—*Med. Record*, April 22, 1898.

The great point of difference between the European schools for deaf-mutes and those of our country is in the mode of instruction. In Europe, teaching by articulation and lip-reading prevails, while with us the sign or manual language is still the method of instruction chiefly relied upon.

(In view of the fact that the deaf-mute who has acquired articulation and lip-reading becomes a more useful member of society, this method should be taught where practicable. Unfortunately, however, it is difficult to teach this method to children unless it is commenced at a very early age (five to eight years), and even in these cases it is accomplished only with much difficulty.)

SCHEPPEGRELL.

Troubles Caused by Adenoid Vegetations in the Adolescent and Adult—BONAIT—*The Times and Register*, Vol. xxxv, No. 10.

This condition, the author believes, is often overlooked in the adult. Two classes of disorder are brought about by the presence of these growths: First, impeded respiration; improper aeration of the tympanic cavity, with possible extension of inflammation to the cephalic membranes from an infected atrium. Second, troubles indirect or reflex, as neuralgias, spasmodic laryngitis and other similar ailments.

LEDERMAN.

The Preparation of Loeffler's Solution for the Local Treatment of Diphtheria—*Deutsche Med. Zeit.*

For the destruction of diphtheria germs Professor Loeffler has found the following mixture to be most effective:

Alcohol, 50 parts.
Turpentine, 50 parts.
Carbolic acid, 2 parts.

Distributed over a surface, the diphtheria germs are destroyed by this combination within twenty seconds. The same may be said of iron-chloride solution and other iron preparations. But as even the brief space of twenty seconds is too long for purposes of practical treatment, Professor Loeffler sought a liquid exerting speedier action. Mindful of the fact that certain substances, such as toluene, benzene and similar products checked the growth of diphtheria germs, Loeffler subjected these to close investigation and assured himself that the best results are obtained from the following combination:

Alcohol, 64 parts.
Benzol (Benzene) or toluol (toluene), 36 parts.

The activity of the mixture is augmented by adding 4 per cent. iron-chloride solution. Experiments made at the vulva of animals were followed by very favorable results. With men it was also demonstrated that where the diphtheria affection is still susceptible of local control, the last mentioned mixture is capable of checking the process with certainty. Used in due season, the germs in the pseudo-membranes can be quickly exterminated; no new formation of poison (toxin) takes place, hence none is absorbed by the organism. The quantity of toxin in the body is soon destroyed. The temperature is quickly reduced, precisely as after the injection of serum (antitoxin).

On staphylococci and streptococci the remedy does not act so speedily as on diphtheria germs.

In dealing with sensitive patients, especially smaller children, Loeffler recommends the addition of 10 per cent. of menthol.

Loeffler prepares his solution as follows:

Menthol, 10 grammes.
Toluene, q. s. to make 36 Cc.

Then add:

Creolin, 2 Cc.
Iron-chloride solution (sesqui-chloride), 4 Cc.
Alcohol, absolute, q. s. ad 100 Cc.

Mode of application: First the mucus is wiped off from the affected portions of the throat by means of a small pledget of cotton in a holder. Then a pledget of absorbent cotton, saturated with the solution and grasped with a suitable forceps, is pressed firmly against the diphtheritic membrane for ten seconds, and this application must then be immediately repeated. The applications are to be continued every three hours for four or five days, when all the local symptoms will probably have vanished. Manifestly the therapeutic use of serum (antitoxin) is not at all affected by this treatment.

VI. DIPHThERIA, THYROID GLAND, ŒSOPHAGUS, ETC.

Diphtheria Antitoxin as an Immunizing Agent—W. M. DONALD
—*New York Med. Jour.*, May 14, 1898.

W. M. Donald states that from a large experience he is led to believe that antitoxin is a valuable immunizing agent in diphtheria.
SCHEPPEGRELL.

The Result of the Serum Therapy in Diphtheria—KRÖNLEIN—
Proceedings German Society of Surgery, Berlin, April, 1898.

Dr. Krönlein states that since 1894 he has used antitoxin in every case of diphtheria that came into the hospital. He believes that in cases of diphtheria, two or three out of 100 can be absolutely diagnosed clinically, although a bacteriologic examination is made in every case.

Statistics of the canton of Zurich report the number of cases of this disease and the percentages of deaths for every year since 1880, as follows:

Year.	No. of Cases.	Deaths, Per cent.	Year.	No. of Cases.	Deaths, Per cent.
1880.....	1,000	24	1889.....	1,100	18
1881.....	1,500	21	1890.....	708	18
1882.....	1,900	15	1891.....	990	16
1883.....	1,400	12	1892.....	1,300	15
1884.....	1,500	16	1893.....	1,400	21
1885.....	900	14.5	1894.....	1,450	19
1886.....	800	12.5	1895.....	900	12
1887.....	700	14	1896.....	1,000	7.5
1888.....	675	15	1897.....	1,500	6

(Number of cases given in even hundreds.)

The above shows the reduction in mortality from twelve to twenty per cent to six per cent.
SCHEPPEGRELL.

Koch's Tuberculin—KOCH—*Philadelphia Med. Jour.*, March, 1898.

At the last three meetings of the staff of the Charité, Berlin's large public hospital, the therapeutic worth of Dr. Koch's new tuberculin was discussed. On the whole, very little was said in its favor, and recently, even in lupus and localized laryngeal and mucous lesions, no success has been reported, although in some cases improvement has been claimed.
SCHEPPEGRELL.

Asthma: Its Cause and Treatment—E. F. PARKER—*Georgia Jour. of Med. et Surg.*, Vol. ii, No. 6.

Clinical experience has proved that the treatment of this affection, or naso-motor bronchitis, based upon the assumption that it is a nasal reflex in a majority if not in all cases, is a rational one, and the one which promises the most successful results.

Internal medication need not be excluded, while insisting upon the importance of surgical interference. Iodide of potassium is still extolled as a satisfactory remedy.

In one of the author's patients, a severe attack of asthma was brought on by an application of cocaine to the naso-pharynx. Adenoids were found, and after their removal for deafness, the asthmatic symptoms disappeared.
LEDERMAN.

The Treatment of Influenza with Anti-Streptococcus Serum—CURRIEU AND PELLON—*New York Med. Jour.*, May 14, 1898.

Dr. Currieu and Dr. Pellon report a case of influenza of a severe character, in which the expectoration showed numerous streptococci, in which antipyrin and quinine were without effect, which was cured by the injection of 20 cm. each of Marmorek's anti-streptococcus serum.

SCHEPPEGRELL.

Indications and Contraindications for the Use of the Schleich**Local Anæsthesia—**KRECKE AND REICHOLD—*Wien. Klin. Rund.*,

January, 1898.

As a result of an extensive experience with the Schleich infiltration anæsthesia, Dr. Krecke and Dr. Reichold offer the following conclusions:

In operating upon healthy tissue, as it were, such as injuries of the fingers, tracheotomy, etc., it is a most excellent method. For anæsthetizing inflamed parts, however, such as felons, furuncles and the like, it is of little worth, since the operation is practically as painful as without the anæsthesia. Again, the after-pain is often so marked and lasting that this method in inflammatory processes is to be condemned.

SCHEPPEGRELL.

A Case of Bronchial Catarrhal Asthma—W. L. MAY—*Memphis**Med. Monthly*, April, 1898.

Dr. W. L. May reports the case of a man of forty-six years who suffered from asthma, which resulted from an attack of acute bronchitis. After various agents had been tried, one-tenth grain of morphine was given hypodermatically, which nauseated the patient, who suddenly went into a comatose state, from which he recovered under hypodermatic injection of strychnine and artificial respiration.

On the recurrence of asthma, morphine was given, under the effects of which he slept quietly. When he awoke, however, there were ptosis and paralysis of half of the tongue. The patient appeared to improve, when he again went into a comatose condition, with stertorous breathing, "complete paralysis," pupils dilated, a temperature of 94.5°, breathing 9 to 13 per minute. Artificial respiration was commenced and stimulants injected, and the patient gradually recovering. The author is at a loss for a satisfactory diagnosis.

(Perhaps the patient had an idiosyncrasy for one or more of the many medicaments administered, viz: Chloroform, ether, morphine, atropine, nitrite of amyl, hyoscyamus, gelsemium, apomorphine, strychnia, bromide of potash, gelsemium and turpentine.)

SCHEPPEGRELL.

Experimental Work on the Penetrability of Vaporized Medicaments into the Air Passages—HOMER M. THOMAS, Chicago—*Jour. Am. Med. Assn.*, May 28, 1898.

The writer describes an apparatus for the production of remedial vapors which are voluntarily inhaled by the patient. "Impaction," or the forcing into the air passages of the vapor by means of the air pressure, is not contemplated. The patient practices deep, forced, voluntary inspiration and normal expiration. As the residual air in the lungs is changed every seven respirations there is no reason why vaporized medicines may not penetrate into the pulmonary alveoli. Post-mortem examinations have revealed stained oil globules within the finest bronchi and alveoli. When the vapor is too irritating it causes a hypersecretion of mucus which impairs its action. As the lungs through inflammation lose elasticity, so that new air no longer enters, it was supposed that substances mixed with air would also not enter. By experiment it is found that corpuscular bodies do readily enter into diseased lungs, and thus vaporized remedies may penetrate diseased foci and cavities. In practice the results of the treatment have been beneficial.

PYNCHON. (BISHOP.)

The Spasmodic Night Cough, with Vomiting and Coryza, in Children—P. GASTOW—*Der Kinder-Arzt*, May 14, 1898.

Dr. P. Gastow states that this very common affection is of reflex origin, sometimes due to intestinal parasites and to other causes, but usually to a coryza posterior. The cough has the following characteristics:

It is spasmodic, similar to whooping cough; causes nausea and vomiting and occurs at night when the child is in bed, never when it is up, and rarely during the day; it is present only in very young children, because they do not expectorate and cannot clear the nose; the mucus, therefore, drops back into the pharynx and the irritation of the pharyngo-laryngeal mucous membrane thus produced causes a reflex cough. The cough is spasmodic because the mucus collects in the region of the arytenoids and the vocal cords, causing glottic spasm and attacks of suffocation. The cough occurs at night because then the position of the head favors the gravitation of the mucus to the pharynx and larynx.

Treatment consists in the application, three to four times daily, through the entire length of the nasal passages, of tampons saturated with borovaseline. This at first causes sneezing, but later the infant bears it well. The "snuffling" causes the vaseline to flow into the pharynx. Astringents, such as tannin or alum, and especially antipyrin, may be added to the vaseline.

(Tannin, alum and other astringents usually cause considerable irritation in these cases, and antipyrin is dangerous. The mechanical cleansing of the parts by means of a gentle nasal syringe of a warmed non-irritating solution gives temporary relief, and the cause, whether local or constitutional, should be carefully looked for and treated.)

SCHEPPEGELL.

VII. INSTRUMENTS AND THERAPY.

The Expenditure of Electric Energy—MARGARET A. CLEAVES—
Jour. Am. Med. Assn., May 21, 1898.

While the writer of this paper is not a laryngologist, the subject matter is of value to all who use electricity. In the application of galvanism or electrolysis from either a constant or alternating current, the writer uses a voltmeter in circuit, as well as a milliamperemeter, and aims to control the pressure of the current as well as its intensity. "The blow that will cause the death of an eagle will not only take the life of a tiny humming bird, but will shatter it to atoms as well, while the power necessary to cause the death of the latter may have no effect on the former." The writer's argument is undoubtedly correct that a voltmeter should always be the companion of the milliamperemeter.

PYNCHON. (BISHOP.)

Antinosine in the Treatment of Diseases of the Eye and Ear—

W. F. COLEMAN—*Jour. Am. Med. Assn.*, January 29, 1898.

Dr. W. Coleman considers antinosine to possess antiseptic properties superior to formalin, sublimate, boracic acid and iodoform, in eye and ear work. It is the sodium salt of tetra-iodo-phenolphthalein, a dark blue amorphous powder readily soluble in water and alcohol, odorless, non-toxic and non-irritating, and makes a purplish solution in water. A one to two per cent solution does not cause pain to the eye or ear.

SCHEPPEGRELL.

Sudden Development of Acute Pulmonary Tuberculosis During the Treatment of a Case of Tuberculous (?) Peripheral Neuritis by the Antiphthitic Serum—J. H. HOLLOWAY—*Louisville Med. Monthly*, May, 1898.

Dr. J. H. Holloway reports the case of a man of twenty-five years, who suffered from severe pains in the arms and legs, which were thought to be due to multiple neuritis and from tuberculous laryngitis. Tuberculous bacilli were found in the sputum, and supposing that the multiple neuritis was also of the same character, a hypodermatic use of antiphthitic serum, T. R. formula Fisch, was commenced. Five m. were at first administered, and this increased until sixteen m. were reached. The improvement was continuous and the pains disappeared.

A few days later, however, the temperature began to rise and the apex of each lung was found to be involved, and in a few days the whole lung was affected. Within two weeks the patient died from acute pulmonary tuberculosis.

SCHEPPEGRELL.

(Without discussing the value, if any, of the various antiphthitic serums, it should be remembered that tuberculous laryngitis is so rarely of primary origin that it has even been disputed. An examination of the apices of the lungs before the injection would probably have shown that one or both were affected when the patient first came under observation.—Scheppегrell.)

BOOK REVIEWS.

Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat and Ear. By W. SCHEPPEGRELL, A.M., M.D., New Orleans, La. Octavo, 161 illustrations, 403 pages, cloth, G. P. Putnam's Sons, New York, publishers, 1898. Price, \$4.50.

In the present era of oto-laryngological progress, Dr. Scheppegrell's comprehensive work on electricity in its application to diseases of the nose, throat and ear, will be recognized as an important and valuable contribution to medical literature.

This volume is an innovation in our special literature, as it is the first to present, in a systematic manner, the principles and practice of electricity as far as it concerns the aurist and laryngologist.

The arrangement of the book is admirable. The introductory chapters are devoted to a consideration of the general principles of electricity, a classification of the various forms of electricity and the application of each, a clear and concise description of the most desirable forms of batteries, dynamos, rheostats and meters.

Then follow chapters on the method of applying galvanism, the selection of electrodes, the use of the faradic coil and a brief mention of the static induced and sinusoidal currents.

In the chapter devoted to illumination, the author introduces the use of the incandescent lamp in its various forms for laryngoscopic examination, a very interesting section on the arc light and apparatus for laryngeal and post-nasal photography and the application of the electric lamp in heating apparatus for warming sprays, sterilizing instruments, etc.

Three of the most valuable chapters in the book are devoted to the consideration of trans-illumination and direct laryngoscopy.

The electro-cautery, its application and its value, the selection of cautery points and handles follows in two chapters.

Electrolysis, cataphoresis and interstitial electrolysis are treated in an able manner. These are especially valuable chapters, as the author has contributed much original work in this direction.

The question of electric motors, drills, saws and massage apparatus is, at the present moment, of much interest, and many practical suggestions may be gleaned from this chapter.

The seventeen succeeding chapters are taken up in a systematic consideration of the application of electricity to diseases of the ear and upper air passages. The concluding chapters offer much interesting information concerning the X-Ray in oto-laryngology.

A feature of the work which deserves special mention is the valuable compilation of Bibliographical References.

The numerous and excellent illustrations add much to the appearance and handiness of the volume.

The book is a beautiful example of the skilled typographer's art. The volume may be justly considered a masterpiece of its class, and the author richly deserves the praise thanks of the profession.

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As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. *Fellows.*"

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

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